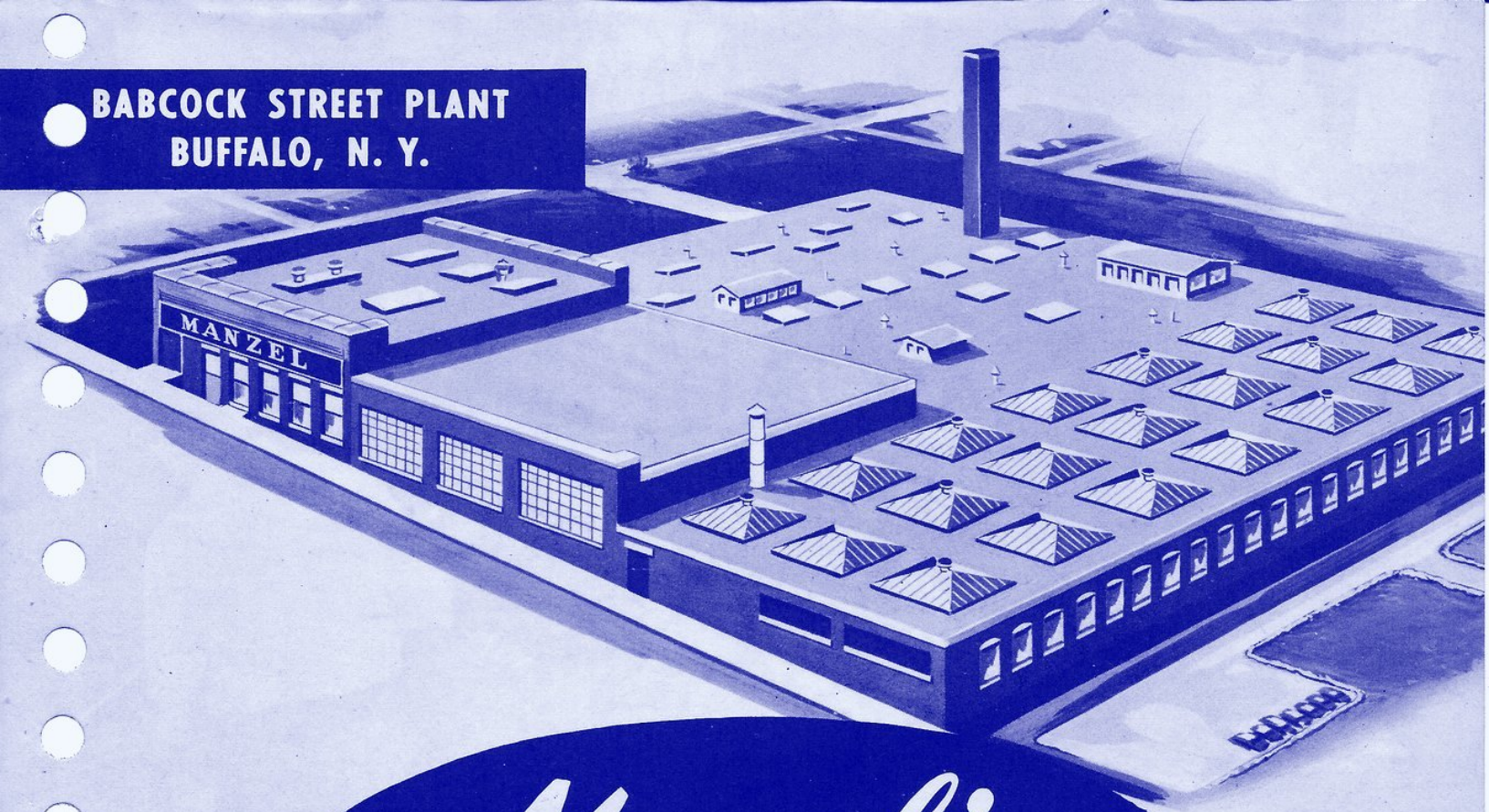
BABCOCK STREET PLANT
BUFFALO, N. Y.



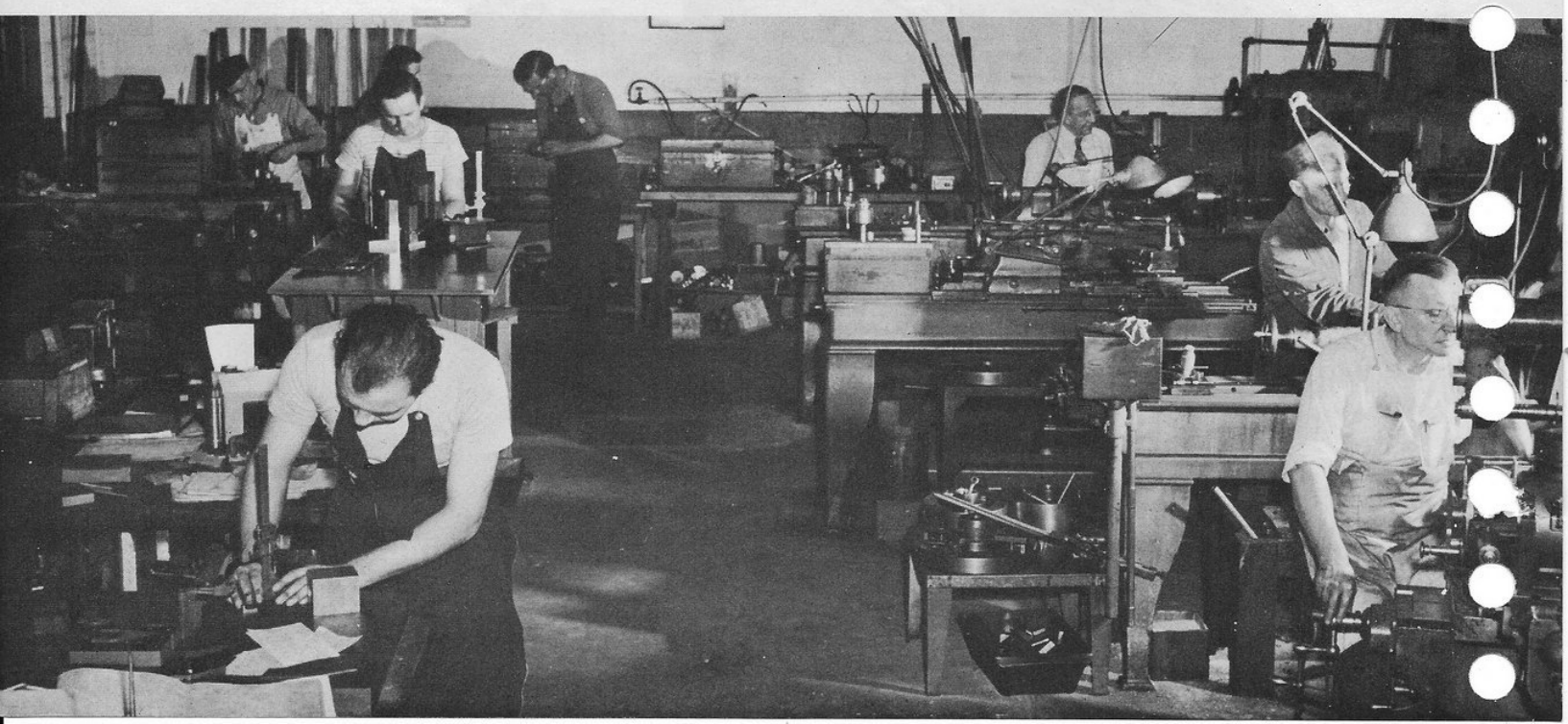
Manzel's

EXTENSIVE MANUFACTURING FACILITIES

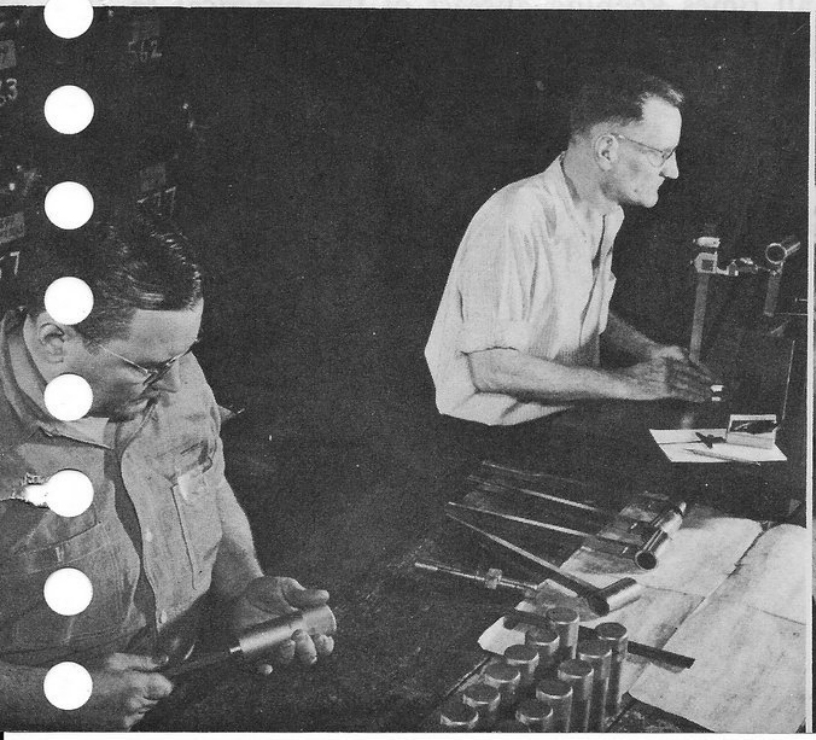
Posted June 2021
By Brian D. Szafranski
Elma NY USA
Please do not reprint for profit.

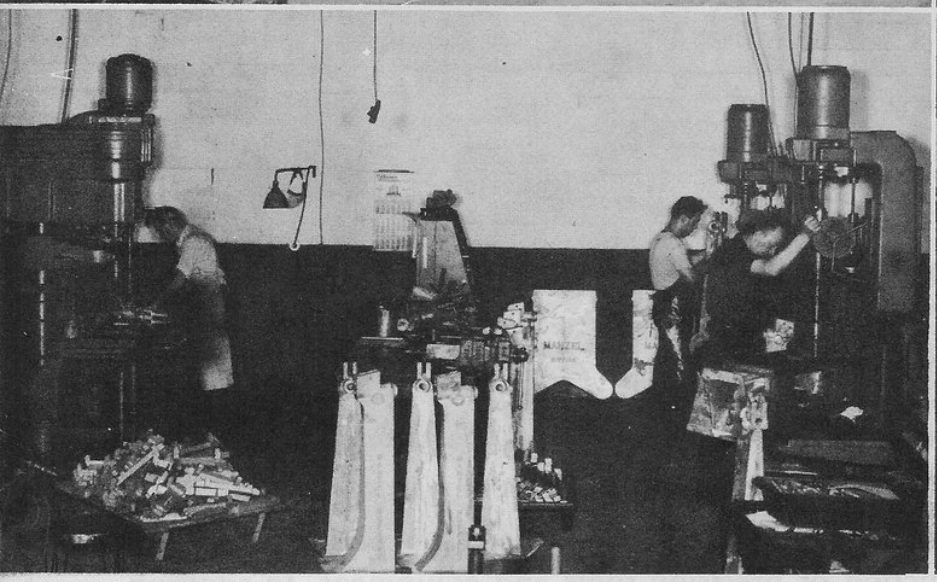
FORGING and BODY TOOL PLANT
CLEVELAND, O.

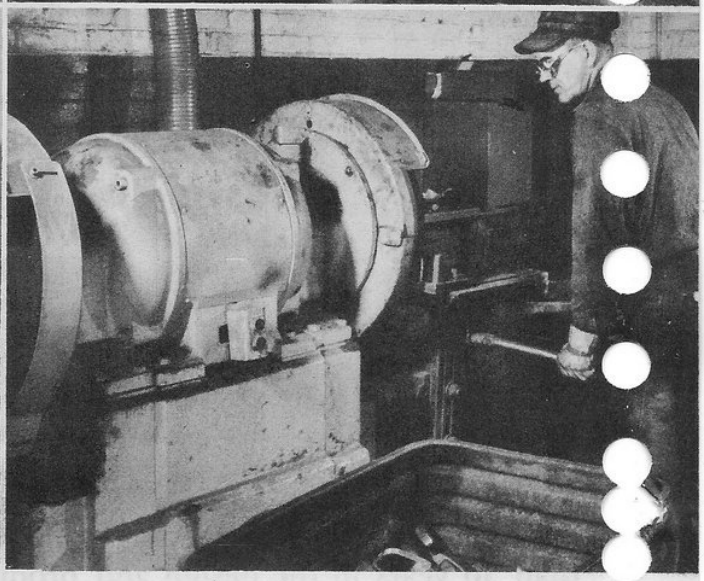
COMPLETENESS On these pages, we show a few of the many planning, engineering, manufacturing and inspection operations carried on in our big plants in the production of Manzel automotive tools and shop equipment. These modern and ample facilities assure our customers of an uninterrupted flow of Manzel products that are fully guaranteed as to workmanship and material.



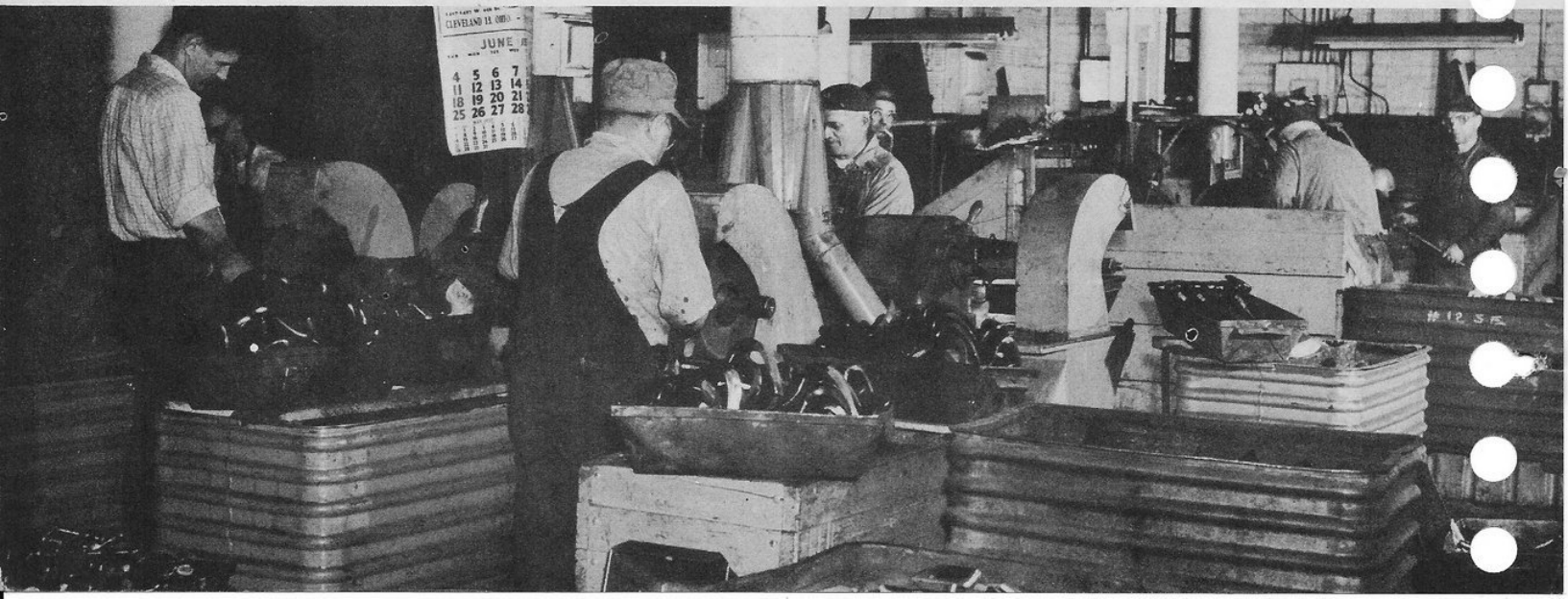
EXPERIENCE Back of these extensive activities is Manzel's experience of more than 50 years in the design and production of precision tools and equipment. In addition to automotive service tools, these Manzel products include force feed automatic lubricating equipment for diesel and other types of engines and machines. This experience has been especially valuable in the engineering and manufacture of hydraulic tools such as Manzel cranes and jacks.

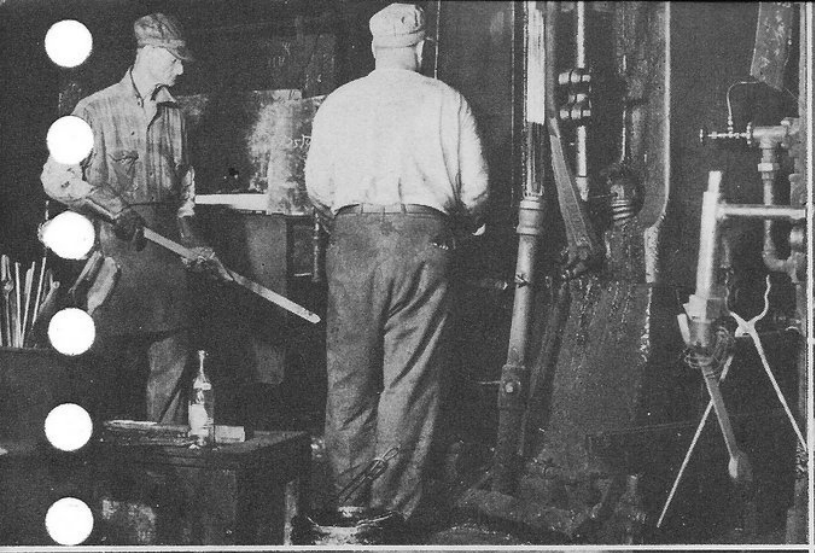


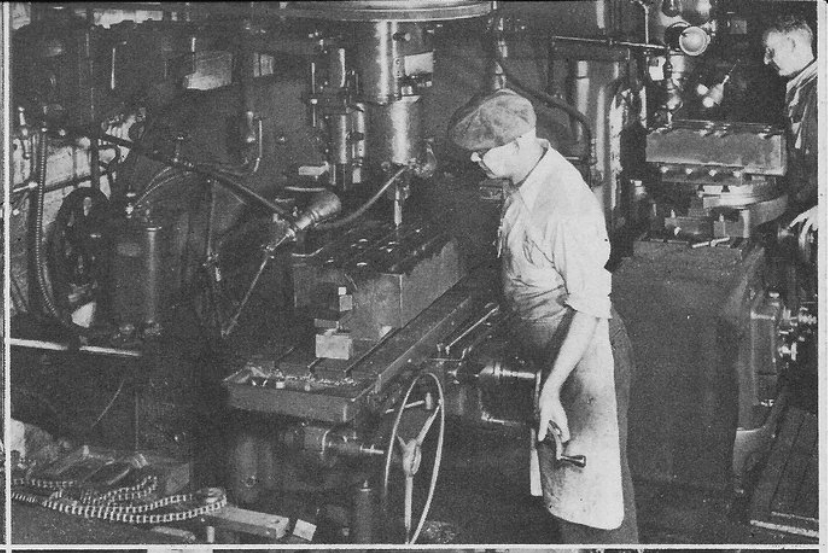


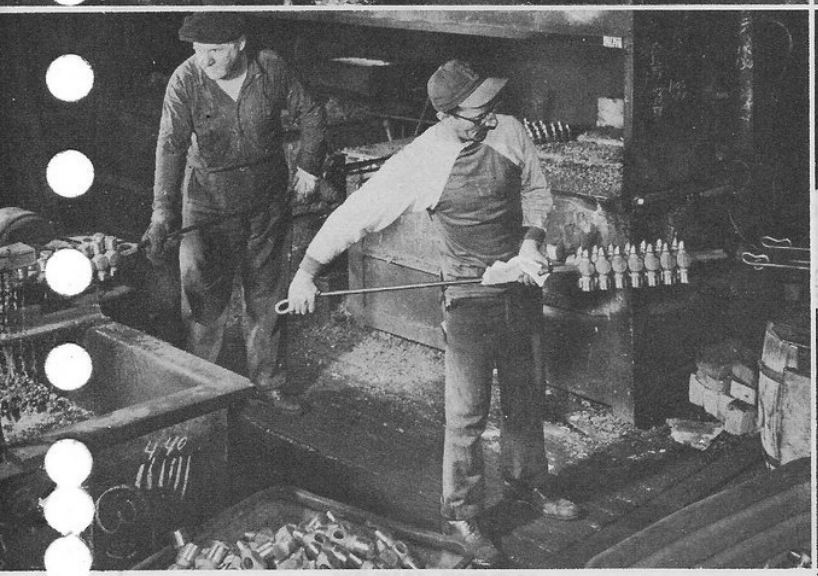


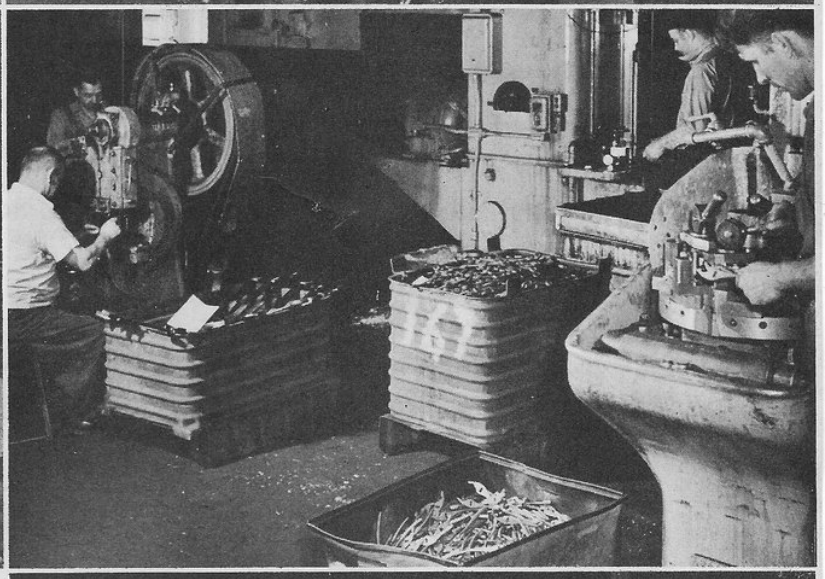
ENGINEERING COLLABORATION Augmenting this long and highly successful manufacturing span has been more than 30 years of engineering collaboration with the automotive industry. As the Authorized Tool Supplier for Ford and Lincoln-Mercury Dealers, Manzel continuously works with Ford Motor Company Engineers. Manzel Service Engineers are in the field at all times keeping abreast of the practical requirements of Ford and Lincoln-Mercury Dealers.







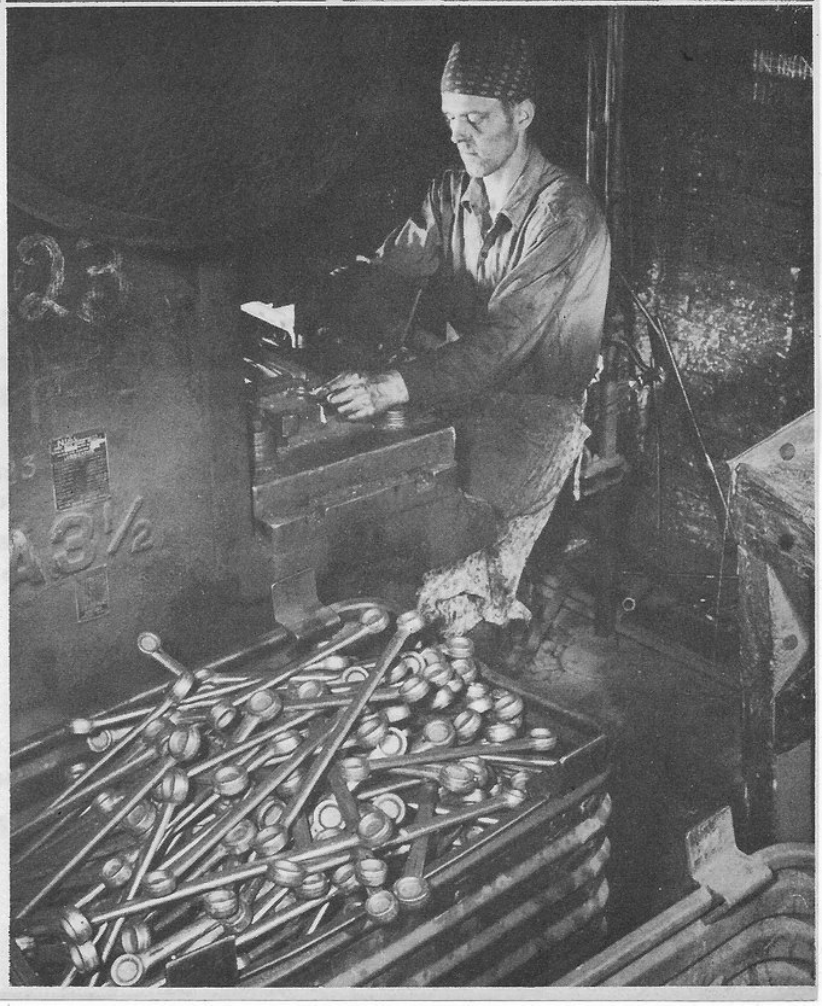




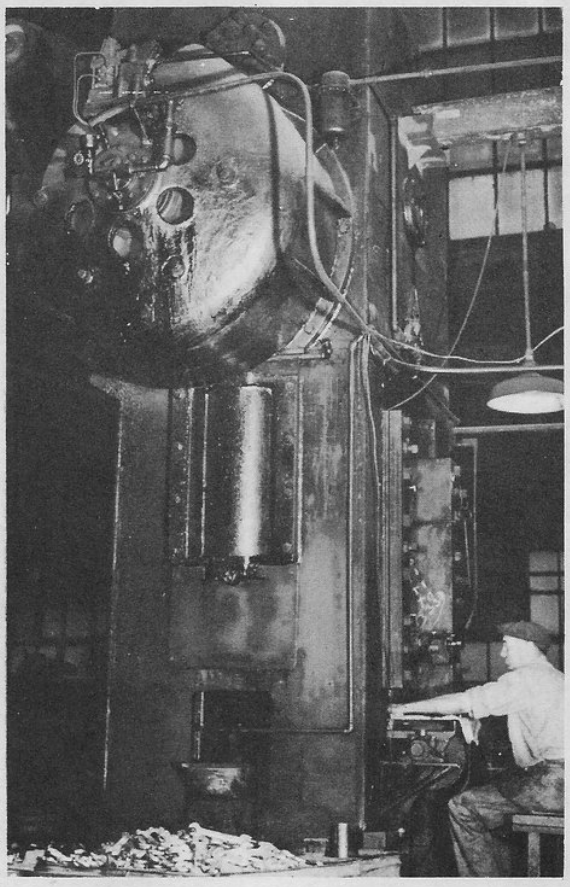
FACTORY DESIGNED, TESTED AND APPROVED

You can buy the Manzel special Ford and Lincoln-Mercury Service Tools listed in this catalog with the assurance that they are factory-designed, tested and approved. More, they are "dealer-tested" through daily use in thousands of Ford and Lincoln-Mercury dealerships throughout the world.

The constant aim of Manzel is to engineer and manufacture special service tools that save time and cut costs . . . and to design them so that the fewest possible number of tools are needed for servicing all models of Ford and Lincoln-Mercury vehicles.



MANZEL SERVICE IS COMPLETE



And we mean *complete.* Everything—special service tools and shop equipment—is readily available. If desired, Manzel gladly will help dealers plan complete dealerships or Service Station Shop layouts.

Manzel products are guaranteed—and will be replaced without charge if within a reasonable time a failure occurs due to workmanship or material. If a failure occurs, Manzel should be notified and the article held pending instructions as to disposition.

On urgent requirements, telephone Buffalo, FAirview 5300 and reverse the charges.

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Automotive Service Equipment	page 12

(Items with ** in page column are illustrated in 1950 catalog.)

MODEL INDEX will give you page number on which appears description and illustration of item.

Manzel

DIVISION OF FRONTIER INDUSTRIES, INC.

315 BABCOCK STREET, BUFFALO 10, NEW YORK

AUTHORIZED SERVICE TOOLS

All FORD and LINCOLN-MERCURY VEHICLES

Factory Designed, Tested and Approved

HUB TOOLS

DESCRIPTION		TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	FORD '48—'50 TRUCKS ¾, 1 & 1½	FORD '48—'50 TRUCKS 2 Ton	FORD '48—'50 TRUCKS 2½ Ton	FORD '48—'50 TRUCKS 3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
— Puller Assembly	Rear Hub	FLM-1113	1	x		x		x										
Remover — Grease Retainer	" "	1175-B	2	x	x	x	x	x	x	x					x			x
" — Inner Bearing Cup	" "	1243-B	7											x				
" — Outer Bearing Cup	" "	4628-C	9										x	x				
Remover — Inner Bearing Cup	Front Hub	FLM-1202-A	4	x		x	x	x										
" — Inner Bearing Cup	" "	1202-B	4		x													
" — Inner Bearing Cup	" "	1202-D	4						x									
" — Outer Bearing Cup	" "	FLM-1217-A	4	x	x	x	x	x										
" — Outer Bearing Cup	" "	1217-D	4						x									
" — In. & Out. Bearing Cups	" "	4222-C	7										x	x				
Replacer — Grease Retainer	Rear Hub	1175-A	2	x		x		x										
" — Inner Oil Seal Retainer	" "	1175-C	2											x				
" — Inner Oil Seal	" "	1175-E	3										x					
" — Inner Oil Seal	" "	1175-F	3									x				x	x	
" — Outer Bearing Cup	" "	1239	5											x				
" — Outer Bearing Cup	" "	1239-A	5									x						
" — In. & Out. Bearing Cups	" "	1239-B	6													x	x	
" — Inner Bearing Cup	" "	1243	6											x				
" — Inner Bearing Cup	" "	1243-A	6										x					
" — Outer Bearing Cup	" "	4222-E	8										x			x	x	
" — Inner Bearing Cup	" "	4222-F	8									x						
Replacer — Inner Bearing Cup	Front Hub	FLM-1202	3	x		x	x	x										
" — Inner Bearing Cup	" "	1202-C	3		x													
" — Outer Bearing Cup	" "	FLM-1217	4	x	x	x	x	x										
" — Outer Bearing Cup	" "	1217-B	5										x	x				
" — In. & Out. Bearing Cups	" "	1217-C	5						x									
" — Inner Bearing Cup	" "	4222-B	7										x	x				
Rem. & Rep.—Hub & Gr. Cap—Front & Rear Hub		1139	1	x	x	x	x	x	x						x			
Rethreading Dies—Front & Rear Hub			107	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Swage — Hub Bolt	Front & Rear Hub	FM-1102	1	x				x										
" — Hub Bolt	" " " "	FM-1102-A	1															x
Wrench — Outer Bearing Nut	Rear Hub	4252	8										x	x				
" — Outer Bearing Nut	Rear Hub	4252-A	8								x					x	x	

Order Tools from Manzel, 315 Babcock St., Buffalo 10, N. Y. See Colored Price List following this Index.

BRAKE TOOLS

SPRING TOOLS

SUSPENSION TOOLS

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	FORD '48—'50 TRUCKS ¾, 1 & 1½	FORD '48—'50 TRUCKS 2 Ton	FORD '48—'50 TRUCKS 2½ Ton	FORD '48—'50 TRUCKS 3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
Remover & Replacer —Return Spring	2086-L	10						x						x			
" & " —Shoe Hold Down	M401-MT1	10		x		x		x	x					x			x
Spreader—Return Spring	2296	11											x				
" — " "	2296-A	11													x	x	
Wrench & Tube Assembly — Bleeder	2061	10		x		x		x									
Wrench —Anchor Nut Adjustment	2027	9								x							
" — " " "	2027-A	9						x				x	x				
" — Shoe Adjustment	2018	9		x	x	x											x
" — Worm Adjustment	2233	10											x				
Remover & Replacer — Spring Shackle	FLM-5464	20	x		x		x										x
" & " — " "	FLM-5464-A	20	x		x		x										x
Spreader — Rear Spring Leaf	5560	19		x		x											
" — " " "	5560-A	19						x						x			
Remover — Rear Top Pin — Shackle	5780	20							x	x							
Burnisher — Spindle Bushings	3110-AA	15						x									
Expanding Tool — Lower Arm	3042-K	11						x									
" " " "	3042-L	12		x		x											
" " — Upper Arm	3044-K	11						x									
" " " " "	3044-L	12		x		x											
Press — Spindle Bushing	FLM-3110-B	13	USE WITH 3110 AND 3110-A														
Reamer — Spindle Bushing — Exp. Type	FM-3110-C	14	x				x										
" — " " " — " "	L-3110-D	14			x												
" — " " — Solid Type	FM-3110-C1	14	x				x										
" — " " — Upper	3110-GG	14										x	x				
" — " " — Lower	3110-H	14										x	x				
" — " " — Solid	3110-J	14		x		x											
" — " "	3110-L	14						x									
Remover — King Pin	3115	16	x				x										
" — " "	3115-A	16			x												
" — Spindle Bolt	3110-CC	15										x	x				
Remover & Replacer — Spindle Bushing	3110	13	x				x										
" & " — " "	3110-A	13		x	x	x											
" & " — " "	3110-E	13										x	x				
" & " — " "	3110-K	13						x						x			
Separator— Shock Absorber Link	LM-18055-6	96	x	x	x	x	x	x						x			x
Shock Absorber Tools	18080-B to L	97	Gabriel & Monroe														
Spotfacer— Spindle Plug	3052	12		x		x											
" — Spindle Support	3052-L	13						x						x			
Wrench — Camber & Caster Adj.	3046-A	12		x		x		x						x			
" — " & " "	3046-B	12						x						x			

Order Tools from Manzel, 315 Babcock St., Buffalo 10, N. Y.

STEERING TOOLS

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	FORD '48—'50 TRUCKS ¾, 1 & 1½	FORD '48—'50 TRUCKS 2 Ton	FORD '48—'50 TRUCKS 2½ Ton	FORD '48—'50 TRUCKS 3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
Remover — Gear Shift Socket Sleeve	7224	82		x		x											
" — Steering (Pitman) Arm	3130	16										x	x				
" — Steering Ball Joint	3290-B	17	x		x		x										x
" — Steering Pitman Arm	3590	18	x	x	x	x	x		x	x							
" — Steering Arm	3590-A	18						x						x			
" — Steering Wheel	3600-A	18										x	x				
" — " "	3600-AA	19	x	x	x	x	x	x	'50	'50	'50	'50	'50	'50			
Remover — Worm Bearing Cup	3552	17		x		x											
Replacer — " " "	3552-A	17		x		x											
Rem. & Repl. — Worm Sector Bushing	3576-L	17		x		x											
Scale — Steering Wheel Tension	3600-F	16	x	x	x	x	x	x	x	x				x			x

REAR AXLE TOOLS

Drive Nut — Pinion Shaft	4201	25		x		x			x					x			
Gauge — Pinion Depth	4020-A	23							x					x			
" — " "	4020-B	23		x		x											
" — Ring Gear Run-Out & Backlash	4201-A	25		x		x			x					x			
" — Pinion Depth	4610-A	36						x									
Holder — Companion Flange	4851-B	45													x	x	
" — " "	4858-F	47						x									
" — Drive Pinion Flange	4851	45										x					
" — " " "	4851-C	45		x		x			x					x			
" — Differential Housing	4205	26		x		x			x					x			
Indicator — Back Lash — Drive Pinion	4201-C	25						x									
Lifting Tool — Pinion Gear Assembly	4609	35											x				
" " — " " "	4609-B	35									x						
Locating Pins — Pinion Brg. Cage	4608	35									x		x				
Master Pinion	4610-CC	37						x									
Mount & Spindle Adapter — Diff. Carrier	4032-A	24						x									
Mount & Spindle — Differential — Rep. Std.	4032	23									x		x				
" & " — Repair Std.— R. Axle	4005	22	x	x	x	x	x	x	x	x	x			x	x	x	x
Peen Tool — Drive Pinion Shaft	4609-A	35									x		x				
Remover — Axle Shaft Bearing	1225-A	21						x									
" — Brg. Retaining Ring	2240-A	22						x									
" — Companion Flange	4851-A	45						x		x					x	x	
" — " "	4858-D	46		x		x			x					x			
" — Diff. Side Bearings	4221-L	30													x	x	
" — " " "	4221-K	30										x					
" — Diff. Side Bearing — Cone	4221-C	27	x	x	x	x			x					x			
" — " " " — Lt. Hd.	4221-D	28											x				
" — " " " — Rt. Hd.	4242-A	33											x				
" — " " " — Cups	4222-C	31										x			x	x	

Order Tools from Manzel, 315 Babcock St., Buffalo 10, N. Y.

REAR AXLE TOOLS (Continued)

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	¾, 1 & 1½	2 Ton	2½ Ton	3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
Remover — Drive Pinion Bearing	4615-C	38									x		x				
" — " " "	4621-E	38										x					
" — " " "	4621-G	38								x					x	x	
" — Drive Pinion Brg. Cup	4222-C	31									x						x
" — Drive Pinion Flange	4839	44									x	x	x				
" — Drive Pinion Pilot Brg.	4625-D	41									x	x	x				
" — Front Pinion Brg. Cup	4628-B	41		x					x					x			
" — Grease & Oil Seal	1175-H	73	x	x	x	x	x	x	x	x				x			x
" — Housing Bearing Cup	4222	30	x		x		x										
" — Housg. & Shaft Grease Retr.	4245-D	34	x		x		x										
" — Pinion Bearing	4621-B	39				x			x					x			
" — " "	4621-H	40		x					x								
" — Pinion Bearings	4628-F	42		x				x	x					x			
" — Pinion Shaft & Bearing	4621	39	x		x		x										
" — Pinion Shaft & Brg. Assem.	4609-D	36						x							x	x	
" — Prop. Shaft Center Brg.	4658	43	x		x		x										
" — Prop. Shaft Roller Brg. Sleeve	4655-B	43	x		x		x										
" — Rear Pinion Brg. Cup	4628-D	41		x		x			x					x			
" — Shaft & Bearing	4235-A	32		x		x		x	x					x			
" — Shaft Bearing Grease Retr.	4245	33	x		x		x										
Replacer — Bearing & Oil Seal	4245-B	34		x		x			x					x			
" — Companion Flange	4839-D	44									x						
" — " "	4858-E	47						x									
" — Comp. Flange Dust Shield	4859	47		x		x			x					x			
" — Differential Bearings	4222-H	32	x	x	x	x	x	x	x					x			
" — " "	FLM-4221		Superseded by 4222-H														
" — Diff. Side Bearing—Lt. Hd.	4221-E	28											x				
" — " " " —Rt. Hd.	4242	33											x				
" — Diff. Side Brg. — Lt. & Rt. Hd.	4221-F	28										x					
" — Diff. Side Brg. — Cone	4221-J	29				x											
" — " " " — Cups	4222-D	31										x					
" — Drive Pinion Bearing	4615-A	37									x				x	x	
" — " " "	4621-A	37				x											
" — " " "	4621-D	37										x					
" — " " "	4621-F	37		x				x	x					x			
" — Drive Pinion Brg. Cup	4222-G	31									x				x	x	
" — Drive Pinion Inner Brg.	4615	37											x				
" — Drive Pinion Pilot Brg.	4625	40											x				
" — Drive Pinion Pilot Brg.	4625-A	40										x					
" — " " " "	4625-C	40									x						
" — Drive Pinion Flange	4839-A	44											x				
" — Housing Bolts	4198	24						x									
" — Housing Bearing Cup	4222-A	30	x		x		x										
" — Housing & Prop. Shaft Gr. Retr.	4245-A	34	x		x		x										
" — Pinion Bearing & Flange	4858-B	46		x		x			x					x			
" — Pinion Bearing Cups	4628-E	42						x									
" — Pinion Rear Bearing Cup	4628-A	41		x				x	x					x			
" — " Shaft Ft. Brg. Cup	4616	38		x		x		x						x			
" — " " Grease Retr.	4676	43		x					x					x			
" — " " Oil Seal	1175-D	21										x					
" — " " " "	4676-A	44						x									

REAR AXLE TOOLS (Continued)

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	FORD '48—'50 TRUCKS ¾, 1 & 1½	FORD '48—'50 TRUCKS 2 Ton	FORD '48—'50 TRUCKS 2½ Ton	FORD '48—'50 TRUCKS 3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
Replacer — Pinion Shaft Pilot Bearing	4616-A	38	x		x		x										
" — " " Rear Brg. Cup	4628	41				x											
" — Propeller Shaft Center Brg.	4658-A	43	x		x		x										
" — " " Roller Brg. Sleeve	4655-A	42	x		x		x										
" — Shaft Bearing	1225-B	21						x									
" — " Oil Seal	1177	21						x									
Remover & Replr. — Differential Bearings	4221-AB	27						x									
" " " — Diff. Side Brg.—Lt. Hd.	4221-H	29									x						
" " " — " " " "—Rt. Hd.	4221-G	29									x						
" " " — Main Bearing	4234	32		x		x			x					x			
" " " — Pinion Bearing	4621-C	39	x		x		x										
" " " — " " "	4625-F	40						x									
Scale — Pinion Tension	4209	26	x	x	x	x											
" — " "	4209-B	26					x		x	x				x	x	x	
" — " "	4209-C	26						x									
Spreader — Differential Housing	4000-A	22		x		x			x					x			
Wrench — Companion Flange Nut	4851-E	46				x											
" — " " "	4851-F	46		x													
" — Differential Brg. Adjust.	4067-B	24						x									
" — Drive Pin. Gr. Retaining Nut	4609-C	36									x						
" — Pinion Flange Nut	4858-G	47	USE WITH TOOL 4858-B														
" — Companion Flange Nut	4209-C12	26						x		Use with 4209-C							
Wrenches — Pinion Bearing Lock Nut	4634	42	x		x												
" — " " " "	4634-A	42								x					x	x	

ENGINE TOOLS

Cleaner — Piston Ring Groove	LM-6110	53	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" — Valve Stem Guide	6510-F	66		x		x		x	x	x	x	x	x	x	x	x	x
Compressor — Piston Ring	6150	55	x	x			x	x	AND SIX CYLINDER								
" — " "	6150-A	55				x					x	x				x	x
" — Valve Spring	6513-B	68	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Compressor — Valve Spring	6513-BB	70				x	Use with 6513-AA--Lifter					x	x			x	
" — " "	6513-C	68					x	x	x	x	x	x	x	x	x	x	x
" — " "	6513-D	68	ALL 6 CYLINDER ENGINES														
" — " "	6513-G	69						x									
Cutter — Valve Seat	6505-AA	107										x	x				
Drill Fixt. & Ext. Drill — Timing Gear	6256-AA	57	LATE '49-'50 FORD 6 CYL. ENGINES														
Engine Display Stands	See Page	50	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" Repair "	See Page	48	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Expander — Piston Ring	6149-2	54	x	x			x	x	x	x	x			x	x	x	x
" — " "	6149-3	54				x						x	x				
" — " " — 6 cyl.	6149-4	54	ALL FORD 6 CYL. ENGINES														
Gauge — Valve Setting — Micro.	LM-6505-A	63	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Hook Tool — Connecting Rod	L-6200	55	x		x		x										
" " — " "	6205	55				x						x	x				

ENGINE TOOLS (Continued)

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	¾,1&1½	2 Ton	2½ Ton	3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
Indexer — Valve Clear. — Block Mtg.	6251-A to H	56	ALL MODELS TO '48 INCLUSIVE														
" — " " — Dist. Mtg.	6251-L	56		x		x		x		x		x	x	x		x	
" — " " — " "	6251-K	56	FOR 6 CYL. ENGINES '49 & LATER														
Inserting Sleeve — Piston	FLM-6149	54	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Lifter — Valve— 6 & 8 cyl.	6513-A	68					x	x	x	x	x	x	x	x	x	x	x
" — " — Engine	6513-AA	70		x		x		x				x	x	x		x	
" — " — (Foot Only)	6513-A2	68	FREE STEM VALVES									x	x				
Lifting Fixture — 8 & 12 cyl.	LM-6011	52	x	x	x		x	x	x	x	x	x	x	x	x	x	x
" Hook Assembly — 8 & 12 cyl.	6000	51	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" " — 6 cyl.	6000-A	51	ALL FORD 6 CYL. ENGINES														
Manifold Riser	6519	72				x						x	x			x	
" "	6519-D	72	x				x										
" "	6519-E	72			x												
" "	6519-F	72		x				x	x					x			
Micro Gauge — Rotator Valve Setting	6513-CC	69	FREE STEM VALVES														
Pilot Stud — Cylinder Head	6049-A	53		x		x											
Press — Valve Assembly	6505-C	64	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Rack — Piston & Valve	6110-A	53	x	x		x	x	x	x	x	x	x	x	x	x	x	x
Reamer — Cylinder Ridge	6011-A	52	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" — Flywheel	6387-E	63				x											
" — Piston Pin	6135-B	54	x		x		x										x
" — Valve Stem Guide — .001 o. s.	6510-AA	64						x				x	x				
" — " " " " — .005 o. s.	6510-AAA	64						x				x	x				
" — " " " "	6510-D	64		x		x		x	x	x	x	x	x	x	x	x	x
Reaming Fixture — Flywheel	6387-D	63				x											
Remover — Crankshaft Gear — 6 & 8 cyl.	6306-H, 6306-AB	60	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" — Crankshaft Pulley — V8	6312-J	61	x	x			x	x						x			x
" — Distributor Drive Gear	3290-B	51	x	x	x		x	x	x								x
" — " " " "	6254-C	57	x	x			x	x									
" — Flywheel	6384	62	x	x	x		x	x	x	x	x	x			x	x	x
" — " Dowel	6387	63				x											
" — " "	6387-AA	63				x											
" — Fuel Pump Eccentric	6254-C	57				x						x	x		x	x	
" — Oil Pump Driving Gear	6254-C	57	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
" — " " Idler Gear Shaft	6656-B	73	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
" — Timing Gear — Fibre	6256-AB	58	LATE '49-'50 6 CYL. ENGINES														
" — " " — Alum.	6256-A	57	x		x		x										
" — Valve Assembly	6510-BB	65	x	x	x	x	x	x	x			x	x		x	x	x
" — " Guide Retainer	6513-E	69	x	x	x		x	x									
" — " Stem Guide	6510-B	64				x						x	x				
" — " " "	6510-K	66	ALL FORD 6 CYL. ENGINES														
" — " " "	LM-6512-A	67			x												
" — Vibration Damper — V12	6360-A	62			x												
" — " " 6 & 8 Cyl.	6316-F	62				x		x	x	x	x	x	x	x	x	x	
Remover & Lifter — Valve Assembly	6512	67	x		x		x										

ENGINE TOOLS (Continued)

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	¾, 1 & 1½	2 Ton	2½ Ton	3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
Remover & Replacer—Camsht. Thrust Collar	6264	59	ALL FORD 6 CYL. ENGINES														
" & " — Ckst. Brgs.—6 cyl.	6261-A	59	ALL FORD 6 CYL. ENGINES														
" & " — " " —6 & 8	6261-B	59	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Remover & Replr — Upper Main Bearing Insert	6331	107	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Replacer — Camshaft Oil Pump Gear	6254-B	55	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
" — Camshaft Welch Plug—6 cyl.	6266	59						x	x	x	x				x	x	x
" — Crankshaft Gear	6306-A	60		x		x		x	x	x	x	x	x	x	x	x	
" — Camshaft Welch Plug	6266-A	60						x	ALSO 6 CYL.								
" — Crankshaft Gear & Damper	6306-J, 6306-AA	61	ALL FORD 6 CYL. ENGINES														
" — " " " " "	6306-C, 6306-K	61	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Replacer — Oil Pan Rear Packing	6007	49				x						x	x			x	
" — Oil Pump Idler Gear Shaft	6656-A	73	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
" — Piston Pin	6135	54				x						x	x			x	
" — " " "	6135-A	54		x													
" — Rear Ckst. Brg. Upper Seal	6007-A	52				x						x	x			x	
" — Timing Gear	6256-BB	58	ALL FORD 6 CYL. TIMING GEARS														
" — Valve Lock	6518	71		x		x		x				x	x		x	x	
" — Valve Spring Keeper	6518-AA	106	FREE STEM VALVES														
" — Valve Stem Guide	6510-J	66	ALL FORD 6 CYL. ENGINES														
" — " " " "	6510-L	66				x						x	x		x	x	x
" — Vibration Damper	6316-C	62		x		x						x	x		x	x	
" — " " "	6360	62			x												
Scale — Piston Pull	FLM-6110-A	53	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Tappet Adjustment Wrenches	6549-A	72	1949 6 CYL. PASS. ENGINES														
Turning Tool — Crankshaft	6303-C	60	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" " " — "	6303-D	60	ALL FORD 6 CYL. ENGINES														
Turning Tool — Str. Pad Mtg.	6303-E	100				x						x	x			x	
Valve Guide Bore Cleaner	LM-6512-B	67	x	x	x	x	x										x
" Grinding Bushing	LM-6512-C	67	x	x	x	x											x
Welch Plug — Expander & Drift Set	6307-A	61			x												
Wrench — Oil Filter Bracket	6050-B	49		x		x		x	x	x	x	x	x	x	x	x	x
Wrench — Oil Pressure Gauge	LM-9278	73	x		x		x										
Wrenches — Tappet Adjusting — Pr.	6549	72	ALL FORD 6 CYL. ENGINES														

TRANSMISSION, OVERDRIVE & CLUTCH TOOLS

Aligning Pins — Trans. Housing	7000-A	74				x						x	x				
Alignment Hook — Cluster Gear	7113-B	79						x									
Assembly Ring — Synchro-Mesh	7124	81	x														
Assembly Tool — Cover Fork Spring Plunger	LM-7235	82	x														
" " — Rawhide Driver	FLM-7005	75	x				x										
Compressor — Clutch	7563	84		x		x		x	x		x	x	x	x			
Driver — Splined Bronze Bushing	7069	78	x														
Driving Head — Rear Seal Assembly	7657-K	83		x													
" " — " " "	7657-L	83				x											
Dummy — Trans. Countershaft	7111-A	79								x	x						
Fixture Bearing Assembly	LM-7025	75				x											
Holding Base — Water Pump	7117	80	x				x										x
Mount & Spindle — Trans. & O'Drive	7000	74				x											
" & " — " & "	7005	74	x	x	x		x										

TRANSMISSION, OVERDRIVE & CLUTCH TOOLS (Cont.)

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	FORD '48—'50 TRUCKS ¾, 1 & 1½	FORD '48—'50 TRUCKS 2 Ton	FORD '48—'50 TRUCKS 2½ Ton	FORD '48—'50 TRUCKS 3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
Pilot — Countershaft Assembly	7111	79				x											
" — Cluster Gear Roller Retainer	7121	79						x									
" — Disc Assembly — Clutch	FLM-7550	83	x		x		x										
" — " " — "	7563-A	84						x									
" — Idler Shaft Alignment	7141	81	x				x										
" — Main Shaft Front Bearing	7118	86				x											
" — Plunger Shifter Shaft	7240	82	x				x										
Positioning Tool — Pawl O'Drive	6915-AA	85						x									
Remover — Bearing-Trans. Ext. & O'Drive	7699-A	83		x				x									
" — Drum & Flange Assembly	7089	78															x
Remover — Gear Shift Socket Sleeve	7224	82		x		x						x	x				
" — Grease & Oil Seal	1175-H	73	x	x	x	x	x	x	x					x			x
" — Idler Gear Shaft	7140	81								x	x	x	x				
" — " " "	7140-A	81				x											
" — Main Dr. Sht. Brg.	7025-C	76								x	x						
" — " " " Gear Trans.	7025	75				x											
" — " Shaft Brg. O'Drive	7025-B	85				x											
" — " " " Snap Ring	7063	77										x	x				
" — Oil Seal	1175-B	2	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" — Pilot Bearing	7600-B	84	x		x		x							x			x
" — " " " Clutch	7600-E	85										x	x		x	x	
" — Snap Ring	7064	77	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Remover Plate — Countershaft Gear	7113	80										x	x				
Remover & Replacer — Drive Gr. Brg.	4234	32		x													
Remover & Replacer — Ext. Drive Brg.	7697	86				x											
" & " — Needle Bearings	7698	86			x												
" & " — Main Drive Brg.	7045	77										x	x				
" & " — Universal Joint	7039	77		x		x											
Replacer — Brg. Ext. Trans. & O'Drive	7699	83		x				x									
" — Countershaft Gears	7113-A	80															x
" — Drum Shaft Grease Retr.	4813	74										x	x				
" — Lockout Lever	7688	86										x	x				
" — Main Drive Gear Brg.	7025-A	76						x									x
" — " " " "	7065-A	78				x				x	x						
" — Main Shaft Snap Ring	7065	78										x	x				
" — Oil Seal — Drive Sht. & O'Drive	7052-A	86						x									
" — " " " — O'Drive	7657-A	86		x	x	x		x									
" — Pilot Bearing Clutch	7600-C	84	x	x	x	x	x										
" — " " "	7600-D	84										x	x				
" — Syncromesh Hub	7105	79						x	x					x			
Stop Yoke — Main Dr. Gear Brg.	7025-D	76								x	x						
Wrench — Governor	L-6919	85		x		x											
" — " — O'Drive	6919-L	85						x									

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HYDRA-MATIC TRANSMISSION TOOLS

Page References are for Catalog 1—1949—Section 3

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	¾,1&1½	2 Ton	2½ Ton	3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
Adjustable Carrier-Engine	6000-H	100				x											x
Adjuster — Servo Band	J-2681	100				x											x
Assembly — Slide Hammer	J-2619	100				x											x
Bender — Throttle Lever	J-3310	100				x											x
Checking Pin — Throttle Linkage	7000-B	100				x											
Collet — Oil Seal Remover	J-2623	100				x											x
Compressor — Oil Del. Sleeve Ring	J-1537	100				x											x
Dolly — Transmission	7000-D	99				x											x
Extension Rod — Dial Indicator	J-1465	100				x											x
Gauge — Front Servo	J-1693	100				x											x
" — Pressure Checking	J-2540	100	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" — Rear Servo	J-5071	100				x											x
" — Reverse Gear Backlash	J-2650	100				x											x
" — Transmission Throttle Lever	J-3298	100				x											x
Guide — Mainshaft End Play	J-2587	100				x											x
Hoist — Transmission	J-1636-C	99				x											x
Holder & Socket Set — Front Pump	J-2184-A	100				x											x
Holding Fixture — Transmission	J-2541	100				x											x
Installer — Front Cover Oil Seal	J-2170	100				x											x
" — Transmission Oil Seal	J-1942	100				x											x
Pliers — Snap Ring	KMO-630	100	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Reamer — Flywheel	6387-E	63				x											
Reaming Fixture — Flywheel	6387-D	63				x											
Remover — "C" Washer	J-1458	100				x											x
" — " "	J-2182	100				x											x
" — Flywheel Dowel	6387-AA	63				x											
Retaining Bracket — Rear Clutch Hub	J-2174	100				x											x
Rivet Set — Governor Flange	J-2183	100				x											x
Set — Dial Indicator	KMO-30	100				x											x
Stand — Trans. Auxiliary Unit	J-2187	100				x											x
Support Column — Dial Indicator	7000-C	100				x											
" " — " "	7001	100				x											
Turning Tool (Starter Pad Mtg.)	6303-E	100				x											

AUTOMATIC TRANSMISSION TOOLS

DESCRIPTION	Tool No.	Page	'51 Merc.	'51 Ford	Other Cars
Air Nozzle — Rubber Tip	7000-DE	117	x	x	x
Rubber Tip Only	7000-DD	117	x	x	x
Compressor — Front Clutch Spring	77565	122	x	x	
Compressor — Rear Clutch Spring	77515	121	x	x	
Engine Carrier — Adjustable	6000-J	117		x	x
Engine Carrier — Adjustable	6000-JJ	118	x		x
Extension — Dial Indicator Support	77067	120	x	x	
Gage — Throttle Control Lever Movement	77270-A	121	x	x	
Gage Pin (Used with above)	7000-B1	121	x	x	x
Guide Pins — Automatic Transmission	7975	120	x	x	
Hoist — Trans — Lift (Adapters available for all Automatic Transmissions)	7000-E	115	x	x	x
Holder — Clutch Assemblies	77530	121	x	x	
Holding Fixture — Transmission	7000-CC	118	x	x	x
Support Arm Assembly — Adapter	7000-CD	118	x	x	x
Linkage Adjusting Tool	77230-F	121		x	
Linkage Adjusting Tool	77230-M	121	x		
Oil Drain Can — Filter	7000-C2	117	x	x	x
Pressure Testing Gauge	77820	122	x	x	x

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AUTOMATIC TRANSMISSION TOOLS (Cont.)

DESCRIPTION	Tool No.	Page	'51 Merc.	'51 Ford	Other Cars
Remover — Front Pump & Ext. Housing Oil Seal	1175-AE	118	x	x	x
Remover & Rep. — Rear Pump Discharge Tube	77869	122	x	x	
Remover — Snap Ring	7064	117	x	x	x
Replacer — Front Pump Oil Seal	77837	122	x	x	
Replacer — Inner One Way Clutch Race	7946	120	x	x	
Replacer — Manual Shaft Seal	77288	121	x	x	
Replacer — Oil Seal Dirt Shield	7657-B	120	x	x	
Replacer & Pilot — Ext. Housing Oil Seal	7657	119	x	x	
Wrench — Front Band Adjustment	7225	119	x	x	
Wrench — Rear Band Adjustment	7195	119	x	x	

FUEL, COOLING, ELECTRICAL & BODY TOOLS

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	¾, 1 & 1½	2 Ton	2½ Ton	3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars
Adjusting Bar — Door Hinge	0680-A	87						x									
" " — " " " L. H.	7322800-A	99		x		x											
" " — " " " R. H.	7322800	99		x		x											
Aligning Pins — Air Horn	9524	90		x		x			x			x	x				
Applicator — Anti-Static Powder.	M-18878	96	x	x	x	x	x	x									x
Assembly Tool — Rocker Arm — Fuel Pump	9350	89										x	x				
Bending Lever — Tension Spring	L-0021248-9	98			x												
" " — Voltage Reg.	10505-C-2	94	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bending Tool — Float Level	9550-E	91		x		x						x	x				
Burnisher — Shaft Bushing	12132	95		x		x		x	x	x				x			
Carburetor Servicing Tools — Kit less Box	9510-GG	91	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" " " — " with "	9510-GGB	91	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Counterbore Tool — Distributor	12131-A	95										x	x		x	x	
Distributor Body — Holding Block	12132-B	95	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Distributor Point — Tension Scale	12151	96						x									
Facer Bushing — Water Pump	L-8520-A	88			x												
Flexing Tool — Fuel Pump	9350-A	89										x	x				
Gauge — Float Level	9510-B	90						x									
" — " "	9550	90	x		x		x										
" — " "	9550-C	92													x	x	
" — " "	9550-D	91		x		x						x	x				
" — Liquid Level	9550-B	92		x		x						x	x				
Holding Tool — Carburetor	9510-C	90		x		x						x	x				
Point Tension Scale — Volt. Reg.	10505-D	94		x		x		x									
Reamer Bushing — Water Pump	FM-8520	88	x				x										
" " — " "	L-8520	88			x												
Remover — Distributor Drive Gear	3290-B	17	x		x		x										
" — " " "	12390-B	88		x		x		x	x	x	x	x	x	x	x	x	x
" — Distributor Sht. Bushing	12132-B-1	95	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" — Econ. Piston & Stem	9904-B	92		x		x						x	x				
" — Lock Barrel	L-7343505	99	x				x										
" — Opening Button-Door	L-0022618	98			x												
Remover — Seal & Cup — Water Pump	8564-A	88				x						x	x				
" — Window Cylinder Clip	L-5623200	97	ALL LINCOLN AUTOMATIC WINDOWS														
" — Window Regulator Switch	L-7324206	99	ALL LINCOLN AUTOMATIC WINDOWS														
Remvr & Replr — Bushing — Water Pump	8520-B	88		x													
" & " — Drive Gear Lock Collar pin	12131	94	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Remover & Replr — Convertible Top Relief Valve	0736-A	87						x									

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FUEL, COOLING, ELECTRICAL & BODY TOOLS (Cont.)

DESCRIPTION	TOOL No.	PAGE	MERCURY '39-'48	MERCURY '49-'50	LINCOLN V-12 '39-'48	LINCOLN V-8 '49-'50	FORD Pass. Cars '39-'48	FORD Pass. Cars '49-'50	FORD '48—'50 TRUCKS ½ Ton	FORD '48—'50 TRUCKS ¾,1&1½	FORD '48—'50 TRUCKS 2 Ton	FORD '48—'50 TRUCKS 2½ Ton	FORD '48—'50 TRUCKS 3 Ton	FORD Sta. Wgn. '49-'50	FORD Motor Coach 5 MB	FORD Motor Coach 8 MB	Other Cars.
Remvr & Replr — Handle Pin	7022614	99		x		x											
" & " — Rivet — Vo. Regulator	10505	94	x	x	x	x											
" & " — " " "	10505-AA	94		x		x		x	NEW TYPE REGULATOR								
Replacer — Dist. Shaft Bushing	12132-A	95		x		x		x				x	x		x		
" — Econ. Piston & Stem	9904-C	93		x		x						x	x				
" — Seal & Cup — Water Pump	8564-B	89		x		x		x				x	x				
Sealing Tool — Discs	9956-B	93							x	x	x	x	x				
" " — Governor	9956	93							x	x	x	x	x				
" " — Wires	9956-A	93							x	x	x	x	x				
Seating Tool — Idle Adj. Needle	9541	91	x	x	x	x	x	x	x	x				x			
Screw Driver — Distributor Points	FM-31036	98	x		x												
Staking Tool — Butterfly & Choke	9586	92	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Testing Tool — Economizer Valve	9904-A	93	x				x	x									
Water Pump — Assembly &	850-1	103		'49				'49						x			
Disassembly Kits	850-2	103		'50				'50									
	850-3	103				x						x	x				
(Available in combination	850-4	103						6									
sets to cover all vehicles)	850-5	103	x				x										
	850-6	103	'49 TRACTOR														
	850-7	103	'39 - '48 TRACTOR														
Windshield Sealer Gun	FLM-403	27	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Wrench — Distributor Adj.	12150-D	96		x		x		x	x	x	x	x	x	x	x		x
" — Economizer Valve	FLM-9904	93	x		x		x										
" — Float Needle Seat Cap	9510-BB	91		x		x					x	x	x				
" — " Valve Seat	9564	91	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" — Fuel Jet — Carburetor	FM-9510	89	x				x										
" — " " — "	FLM-9510-A	89	x		x		x										
" — Hinge Tightening — Door	22801	95		x		x											
" — Idle Tube	9544	91		x		x						x	x				
" — Jet	9594-A	92													x	x	
Wrench — Main Metering Jet	9533	91	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
" — Oil Pressure Gauge	LM-9278	73	x		x		x										
" — Power Valve	9510-AA	91				x		x				x	x		x		x
" — Pump Rod Stud	9631	91		x		x					x	x	x				
" — Retaining Nut — Wiper & Heater	17470	96						x									

FORD TRACTOR TOOLS - For 9N, 2N, & 8N Models

DESCRIPTION	TOOL No.	PAGE
Adjusting Gauge — Hydr. Mech.	HG-100	106
Compressor — Accessory No. 1	6513-F1	71
" — " No. 2	6513-F2	71
" — Trans. Shifter Lever Spring	7227	82
" — Valve Spring	6513-F	71
Display Stand — Tractor Engine	T-115	50
" " — Cards	T-115-DC	50
Engine Stand — Pedestal	6005-BA	48
" " — Portable Base	6005-D	48
" " — Portable Parts Tray	6005-PB	48
" " — Swivel Tool Tray	6005-T	48

DESCRIPTION	TOOL No.	PAGE
Hoist — Engine	6050-A	53
Lift Plate — Transmission	7005-B	75
Mount & Spindle — Engine	6014	49
Reseating Tool — Hydr. Pump Side Plate	N-607	106
" " — Relief Valve	RS-100	106
Scale —Pinion & Trans. Tension	4209-D	26
" — Piston Pull — Engine	FLM-6110-A	53
Setting Gauge — Governor	18204	98
Spreader — Return Brake Spring	2296-A	11
Testing Gauge — Hydraulic Pump	0600	87
Wrenches — Pinion Brg. Locknut	4634-A	42

Order Tools from Manzel, 315 Babcock St., Buffalo 10, N. Y.

AUTOMOTIVE SERVICING EQUIPMENT

Page Reference is to Section 5 or Section 6 *Catalog 1, 1949.*	TOOL No.	PAGE
Anti-Freeze Tester	M-161-808	29
Axle Stand — 15" Low, 27" High	M-104-960	178
Battery Tools		30
" Kit	M-161-70C	31
Blow Torches — Cap. 1 pint, 1 quart		24
Body Repair Tools — Assortments		31
" " " — Display Board		32
" " " — Dolly Blocks		29
" " " — Hammers		26
" " " — Special		30
" " " — Spoons		28
Brake Bleeder Hoses — 4 to set	M-133-5343	29
Brake Bleeder Tanks — Hydraulic		55
" " " — "		61
Brake Filler Tank — Gravity	M-119- FL304	56
Cabinet — Wall Type (Tool Storage)	M-233	*
Cold Chisels — 3/8" to 1" sizes		18
Crane — Hydraulic Floor — 1 ton & 2 ton		**
Creepers — Red Head	M-107-RH	50
" — Smash Proof		51
Drain Pan — 5 gallon capacity	M-224	52
Drift Set — Brass	M-172	14
Drills — Jobbers & Twist — all sizes		19
Drip Pan — 23" x 33" x 5/8" High	M-235	52
Extension Cords — all types		46
Extractors — Screw & Stnd.	M-223-1816	19
Gauge — Cylinder Indicator	M-140-452B	3
" — Ignition Spacing	M-140-571	3
" — Step Feeler (Ford Go - No Go)	M-173-460	3
" — Telescoping Inside-2 1/8" to 3 1/2"	M-140-229-D	3
" — Thickness	M-140-172A	4
Hammer — Tire Changing	M-345-127	17
Hammers — Ball Pein and Cross Pein		15
" —Soft Face — Nylon		20
" — " "Copper, Lead&Rawhide		21
Hydraulic Jack — Heavy Duty Floor	M-500	**
" " — Showroom, rubber wheels	M-500-R	**
Impactool		44
Jack—Hydr Curb Service (Removable Handle		176
Ladder — Kant Tip	M-126	28
Light — Heavy Duty Shop	M-261-GM	47
" — Junior Shop Light	M-261-GM Jr.	48
" — Undercoating	M-261-UL	49
Micrometer — 0" — 1", 1" — 2"		2
" — 2" — 3", 3" — 4"		2

Page Reference is to Section 5 or Section 6 *Catalog 1, 1949.*	TOOL No.	PAGE
Micrometer Caliper Set 0" — 4"	M-140-224-AA	2
" — Check Rods 1", 2", 3", 4"		2
Micrometer — Inside Set 2" — 8"	M-140-124-A	2
" — Crankshaft — 1 1/2" to 2 1/2"	M-140-436-2 1/2	3
Number Stamps — Steel		58
Pliers — All Types		16
" — Slip Joint — 6" & 8"	M-345-942	18
" — Water Pump	M-125-B420	17
Punches — Center	M-345-594-5	18
" — Pin or Drift (1/8 to 5/16" Dia.)		18
" — Solid Type — 1/8, 3/16, 1/4"		18
Radiator Test Plugs	M-256-2004S	29
Rethreading Die — Axle — SAE 5/8" to 1 1/4"	M-255-U-130	**
" " — Axle Hsg— 1 13/16" - 16"		**
Rotary Brushes for Electric Drill 3/4" to 3" Dia.		17
Screw Drivers — all types		18
Shop Desks		59
Soldering Irons — 100 W, 200 W, 300 W		24
Stud Remover	M-373-SW-1	*
Sun Testers —		
Battery Starter	M-183-Y	**
Coil	M-183-AA	**
Combustion	M-183-H	**
Distributor	M-183-MDT	**
Master Motor	M-183-MMT	**
Volts Ampere	M-183-CB	**
Tank — Bearing Wear Detector		168
Taps & Dies — all sizes		19
Thread Restorer	M-125-TR1	17
" "	M-125-TR2	17
Tool Boards — Complete with Fittings		**
Tool Board Numbers and Signs		**
Tool Toters — Cabinet Type	M-100-4360	*
Tool Toters — Open Type	M-234-506	58
Torque Wrench — 0 to 300 ft. lbs.		**
" " — 35 to 200 ft. lbs. (Reversible Ratchet — Sound Sig.)	M-105-S-57	**
Tube Cutter & Reamer	M-255-U-429	25
Tube Flaring Tool — Double (1/8 to 1/2" Dia.)	M-178-DF	25
Tube Flaring Tool — Single (1/8 to 1/2" Dia.)	M-255-U-162	25
Vises — Stationary & Swivel — 3" to 8"		26
Work Benches		59
Wrench — Cross Rim Wheel (5/8 to 7/8")		17
Wrenches — Double Box End—12 point		12
" — Double Hd, Open End —15° angle		14
Wrench — Geared Powerench (For Trucks)	M-273-124C	33
Wrenches — Open End—Box End Comb.		13
" — Spark Plug Sets		9

* *Appeared in Ford Service Bulletins or Advertising Brochures. Did not appear in Catalog 1, 1949.*

** *See Pages 104 thru 112, 1950 Catalog.*

MANZEL—Authorized Tool Supplier for Ford and Lincoln-Mercury Dealers have available a complete line of factory recommended Service Equipment for fully equipping a dealership. For information on such equipment see Sec. 5 or 6, Catalog 1, 1949. We welcome questions about layout, equipment, service tools — Manzel business is to serve you at all times.

Manzel 315 BABCOCK ST., BUFFALO 10, N. Y.

Phone: FAirview 5300

315 BABCOCK STREET

BUFFALO 10, NEW YORK

Form 453 PL
Dated April 10, 1953

Manzel

A COMPLETE LINE OF SERVICE EQUIPMENT FOR AUTOMOTIVE DEALERS

PRICE LIST OF SPECIAL AUTOMOTIVE SERVICING TOOLS & EQUIPMENT

ISSUE OF APRIL 10, 1953

ALL ITEMS F.O.B. BUFFALO, N. Y.

CATALOG NUMBER	PAGE NUMBER	WEIGHT	SELLING PRICE
KMO-30	100	1 lb. 0 oz.	$21.25
HG-100	106	2 lb. 8 oz.	11.90
RS-100	106	2 lb. 0 oz.	9.45
S-101	123	10 oz.	4.25
M-105-S25	108	2 lb. 4 oz.	26.65
M-105-S50	108	2 lb. 8 oz.	27.75
M-105-S-100	108	2 lb. 12 oz.	28.85
M-105-S-150	108	3 lb. 12 oz.	34.85
M-105-S-200	108	5 lb. 8 oz.	49.75
M-105-S-300	108	10 lb. 8 oz.	59.85
LM-106	9*	10 lb. 2 oz.	18.95
C-115-6	50	6 lb. 0 oz.	25.50
C-115-M	50	9 lb. 8 oz.	10.00
F-115	50	42 lb. 0 oz.	51.00
FL-115	50	43 lb. 0 oz.	51.50
FLM-115	50	40 lb. 0 oz.	46.50
FM-115	50	40 lb. 0 oz.	43.00
L-115	50	42 lb. 0 oz.	43.00
L-115-A	9*	23 lb. 0 oz.	39.50
M-115	50	40 lb. 0 oz.	44.00
T-115	50	46 lb. 0 oz.	29.25
T-115-DC	50	1 lb. 0 oz.	2.50
M-120-RA-72	9*	73 lb. 0 oz.	95.00
B-160	fi	5 lb. 0 oz.	4.95
172-S	112	515 lb. 0 oz.	355.00
172-W	112	590 lb. 0 oz.	380.00
172-SG	fi	530 lb. 0 oz.	365.00
172-WG	fi	550 lb. 0 oz.	390.00
196-S	112	545 lb. 0 oz.	385.00
196-W	112	565 lb. 0 oz.	415.00
196-SG	fi	560 lb. 0 oz.	395.00
196-WG	fi	580 lb. P oz.	420.00
272-S	112	590 lb. 0 oz.	430.00
272-W	112	610 lb. 0 oz.	455.00
296-S	112	545 lb. 0 oz.	460.00
296-W	112	640 lb. 0 oz.	490.00
MH-250	fi	1 lb. 0 oz.	7.50
MH-251	fi	12 oz.	5.20
MH-252	fi	2 lb. 0 oz.	10.25
MH-253	fi	2 lb. 0 oz.	16.85
MH-254	fi	3 lb. 0 oz.	5.40
MH-255	fi	4 lb. 10 oz.	14.25
MH-260	fi	4 oz.	3.50
MH-261	fi	8 oz.	3.45
MH-263	fi	10 oz.	3.25
MH-265	fi	4 oz.	3.70
MH-266	fi	6 oz.	3.70
MH-267	fi	1 lb. 6 oz.	13.25
MH-268	fi	1 lb. 5 oz.	12.50
M-279-TT-35 (Set)	114	86 lb. 0 oz.	$75.00
M-279-ATG-38	114	20 lb. 0 oz.	31.50
M-279-ATE-39	114	8 lb. 0 oz.	6.00
M-300-S-57	108	3 lb. 6 oz.	42.90
M-368-A	104-5	43 lb. 0 oz.	53.75
M-368-C	104-5	29 lb. 0 oz.	42.75
M-368-D	104-5	35 lb. 10 oz.	19.00
M-368-E	104-5	2 oz.	.20
M-368-F	104-5	2 oz.	.15
M-368-G	104-5	2 oz.	.15
M-368-H	104-5	1 oz.	.15
M-368-J	104-5	2 oz.	.15
M-368-K	104-5	1 oz.	.20
M-368-S	fi	11 oz.	4.95
M-368-AA	104-5	11 oz.	4.95
M-368-BB	104-5	11 oz.	4.95
M-368-CC (Set)	104-5	12 oz.	7.50
M-368-JJ	fi	2 oz.	.15
FLM-403	27	8 oz.	3.80
N-404-N-201	114	7 lb. 0 oz.	99.50
LP-500	fi	128 lb. 0 oz.	177.50
LP-500-7-3	fi	1 lb. 0 oz.	18.00
N-607	106	2 lb. 0 oz.	8.50
0600	87	2 lb. 10 oz.	28.80
0680-A	87	3 lb. 11 oz.	8.30
0736-A	87	3 oz.	6.50
FM-1102	1	1 lb. 4 oz.	2.90
FM-1102-A	1	1 lb. 4 oz.	3.65
FLM-1113	1	10 lb. 4 oz.	24.90
FLM-1113-1	1	6 oz.	1.15
1139	1	8 oz.	2.45
1175-A	2	2 lb. 0 oz.	5.80
1175-AB	fi	2 lb. 4 oz.	11.75
1175-AE	118	7 lb. 12 oz.	14.75
1175-B	2	12 oz.	3.85
1175-C	2	2 lb. 0 oz.	8.50
1175-D	21	2 lb. 0 oz.	6.80
1175-E	3	2 lb. 8 oz.	6.70
1175-F	3	2 lb. 12 oz.	6.05
1177	21	1 lb. 11 oz.	4.95
FLM-1202	3	2 lb. 0 oz.	5.95
FLM-1202-A	4	2 lb. 12 oz.	11.20
1202-B	4	3 lb. 0 oz.	11.20
1202-C	3	3 lb. 0 oz.	5.95
1202-D	4	3 lb. 4 oz.	11.20
FLM-1217	4	2 lb. 4 oz.	5.80
1217-B	5	3 lb. 4 oz.	7.80
1217-C	5	2 lb. 7 oz.	10.75

* *On page refers to 1952 FLM Catalog*
** *On page refers to 1953 Tractor Catalog*
fi *On page refers to brochure - write for information*
All other page references are 1949-51 Standard Catalog.

Prices subject to change.
Orders acknowledged at current prices.

CATALOG NUMBER	PAGE NUMBER	WEIGHT	SELLING PRICE
1217-D	4	3 lb. 4 oz.	$11.20
1225-B	21	11 oz.	1.90
1225-C	4*	12 lb. 0 oz.	14.70
1225-D	4*	12 lb. 0 oz.	14.70
1239	5	5 lb. 0 oz.	8.70
1239-A	5	3 lb. 8 oz.	8.75
1239-B	6	5 lb. 0 oz.	9.10
1243	6	6 lb. 8 oz.	8.15
1243-A	6	6 lb. 0 oz.	8.55
1243-B	7	8 lb. 4 oz.	19.25
J-1458	100	6 oz.	3.55
J-1465	100	5 oz.	2.10
J-1537	100	1 lb. 2 oz.	5.40
J-1693	100	8 oz.	9.25
J-1942	100	1 lb. 6 oz.	9.25
2018	9	10 oz.	1.65
2027	9	1 lb. 2 oz.	5.70
2027-A	9	1 lb. 3 oz.	5.70
2061	10	10 oz.	4.50
2061-A	123	10 oz.	4.50
2086-L	10	8 oz.	4.00
J-2170	100	1 lb. 3 oz.	8.35
J-2174	100	2 oz.	1.25
J-2182	100	6 oz.	3.15
J-2183	100	14 oz.	7.35
J-2184-A	100	9 oz.	4.75
J-2187	100	4 lb. 3 oz.	4.40
2233	10	8 oz.	3.25
2240-A	22	4 lb. 6 oz.	17.50
2275	2*	9 oz.	3.70
2296	11	1 lb. 0 oz.	4.00
2296-A	11	11 oz.	3.25
2384	fi	2 oz.	1.10
J-2540	100	1 lb. 6 oz.	7.20
J-2587	100	2 lb. 5 oz.	6.85
J-2619	100	5 lb. 4 oz.	6.85
J-2623	100	1 lb. 6 oz.	9.25
J-2650	100	5 oz.	4.50
J-2681	100	2 lb. 14 oz.	24.90
3042-AA	2*	1 lb. 9 oz.	7.25
3042-K	11	3 lb. 6 oz.	15.80
3042-L	12	13 lb. 4 oz.	24.10
3044-AA	2*	11 oz.	5.25
3044-K	11	3 lb. 4 oz.	15.10
3044-L	12	13 lb. 14 oz.	14.25
3046-A	12	10 oz.	3.05
3046-B	12	10 oz.	3.05
3052	12	1 lb. 6 oz.	13.20
3052-L	13	8 oz.	12.50
3068	2*	15 oz.	2.25
3069	2*	1 lb. 8 oz.	3.85
3069-A	2*	1 lb. 5 oz.	2.40
3069-B	2*	12 oz.	1.80
3082	2*	2 lb. 13 oz.	4.90
3110	13	2 lb. 8 oz.	11.40
3110-A	13	2 lb. 12 oz.	14.00
3110-AA	15	4 lb. 14 oz.	21.20
FLM-3110-B	13	7 lb. 0 oz.	7.75
FM-3110-C	14	3 lb. 0 oz.	15.85
FM-3110-C-1	14	3 lb. 0 oz.	5.70
3110-CC	15	2 lb. 10 oz.	17.60
L-3110-D	14	3 lb. 4 oz.	18.60
3110-E	13	3 lb. 0 oz.	14.25
3110-GG	14	5 lb. 4 oz.	24.25
3110-H	14	5 lb. 4 oz.	20.10
3110-J	14	3 lb. 8 oz.	22.70
3110-K	15	2 lb. 11 oz.	11.20
3110-L	14	1 lb. 12 oz.	13.75
3115	16	6 lb. 4 oz.	13.50
3115-A	16	6 lb. 4 oz.	14.60
3130	16	3 lb. 4 oz.	7.40
3290-B	17	1 lb. 0 oz.	5.95
J-3310	100	1 lb. 13 oz.	8.40
3500	fi	3 lb. 0 oz.	22.95
3516	fi	8 oz.	2.20
3517	fi	1 lb. 8 oz.	5.10
3517-A	fi	1 lb. 0 oz.	3.50
3552	17	1 lb. 5 oz.	9.20
3552-A	17	1 lb. 0 oz.	5.25
3552-C	2*	1 lb. 12 oz.	4.20
3552-D	2*	1 lb. 12 oz.	4.65
3552-E	2*	1 lb. 10 oz.	10.30
3552-F	2	1 lb. 12 oz.	$13.60
3553	fi	2 lb. 8 oz.	10.50
3576	fi	6 lb. 0 oz.	9.40
3576-A	fi	1 lb. 0 oz.	5.25
3576-L	17	5 lb. 8 oz.	13.60
3590	18	2 lb. 10 oz.	8.20
3590-A	18	2 lb. 12 oz.	8.25
3600-A	18	6 lb. 0 oz.	19.40
3600-AA	19	1 lb. 8 oz.	7.40
3600-AC	fi	12 oz.	6.25
3600-F	16	1 lb. 8 oz.	5.80
3770	fi	5 lb. 4 oz.	14.25
3770-A	fi	5 lb. 4 oz.	21.75
4000-A	22	38 lb. 0 oz.	29.60
4000-A-14 (Set)	126	4 oz.	3.90
4005	22	45 lb. 0 oz.	45.00
4020-A	23	10 lb. 8 oz.	29.60
4020-B	23	10 lb. 8 oz.	42.25
4020-B-5	126	4 oz.	2.60
4032	23	11 lb. 8 oz.	25.20
4032-A	24	2 lb. 6 oz.	7.80
4032-B	4	10 lb. 4 oz.	18.20
4032-C	128	7 lb. 4 oz.	15.85
4067-B	24	1 lb. 13 oz.	4.45
4198	24	2 lb. 3 oz.	6.70
4201	25	1 lb. 0 oz.	3.35
4201-A	25	2 lb. 8 oz.	34.00
4201-A-5	126	1 lb. 0 oz.	3.30
4201-C	25	1 lb. 6 oz.	28.50
4201-D	4*	14 oz.	6.90
4205	26	2 lb. 8 oz.	7.95
4209	26	11 oz.	7.90
4209-B	26	11 oz.	7.90
4209-C	26	14 oz.	11.90
4209-C-12	26	9 oz.	4.80
4209-C-13	4*	7 oz.	2.25
4209-D	26	14 oz.	7.90
4221-AB	27	3 lb. 15 oz.	16.65
4221-C	27	2 lb. 0 oz.	16.20
4221-C-13	4*	3 oz.	1.05
4221-D	28	7 lb. 8 oz.	14.90
4221-E	28	6 lb. 0 oz.	10.20
4221-F	28	4 lb. 0 oz.	14.50
4221-G	29	6 lb. 0 oz.	19.70
4221-H	29	6 lb. 0 oz.	16.70
4221-J	29	3 lb. 0 oz.	6.20
4221-K	30	19 lb. 0 oz.	32.00
4221-L	30	19 lb. 0 oz.	32.00
4222	30	3 lb. 0 oz.	11.70
4222-A	30	3 lb. 0 oz.	7.20
4222-B	7	4 lb. 0 oz.	8.45
4222-C	7	11 lb. 0 oz.	16.15
4222-D	31	6 lb. 8 oz.	9.20
4222-E	8	4 lb. 8 oz.	7.85
4222-F	8	4 lb. 0 oz.	12.50
4222-G	31	3 lb. 8 oz.	7.25
4222-H	32	2 lb. 6 oz.	4.80
4222-J	126	3 lb. 0 oz.	5.50
4235-A	32	6 lb. 8 oz.	13.80
4242	33	4 lb. 0 oz.	9.00
4242-A	33	5 lb. 8 oz.	18.75
4245	33	7 lb. 8 oz.	14.25
4245-A	34	4 lb. 4 oz.	12.90
4245-B	34	2 lb. 0 oz.	6.30
4245-D	34	5 lb. 4 oz.	6.05
4252	8	5 lb. 8 oz.	15.00
4252-A	8	5 lb. 8 oz.	15.00
4608 (Pr.)	35	4 oz.	2.65
4609	35	1 lb. 8 oz.	4.70
4609-A	35	8 oz.	2.15
4609-B	35	1 lb. 8 oz.	4.70
4609-C	36	3 lb. 8 oz.	16.00
4609-D	36	4 lb. 8 oz.	18.00
4610-A	36	3 lb. 10 oz.	13.20
4610-CC	37	3 lb. 8 oz.	13.25
4615	37	1 lb. 8 oz.	5.65
4615-A	37	2 lb. 8 oz.	5.90
4615-C	38	1 lb. 8 oz.	7.40
4616	38	3 lb. 8 oz.	7.90
4616-A	38	3 lb. 0 oz.	4.30
4621	39	8 lb. 4 oz.	14.70
4621-A	37	2 lb. 8 oz.	5.90

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CATALOG NUMBER	PAGE NUMBER	WEIGHT	SELLING PRICE
4621-B	39	10 lb. 0 oz.	$16.50
4621-C	39	7 lb. 4 oz.	14.10
4621-D	37	2 lb. 8 oz.	5.90
4621-E	38	4 lb. 8 oz.	7.40
4621-F	37	2 lb. 8 oz.	5.65
4621-G	38	4 lb. 8 oz.	7.40
4621-H	40	9 lb. 10 oz.	17.20
4625	40	3 lb. 12 oz.	5.75
4625-A	40	2 lb. 0 oz.	4.80
4625-C	40	2 lb. 0 oz.	5.45
4625-D	41	14 lb. 8 oz.	14.30
4625-F	40	1 lb. 9 oz.	3.65
4628	41	6 lb. 0 oz.	9.60
4628-A	41	6 lb. 0 oz.	9.40
4628-B	41	3 lb. 0 oz.	11.75
4628-C	9	7 lb. 0 oz.	19.75
4628-D	41	8 lb. 4 oz.	19.00
4628-E	42	5 lb. 0 oz.	8.35
4628-F	42	6 lb. 5 oz.	16.90
4634	42	1 lb. 0 oz.	8.35
4634-A	42	1 lb. 0 oz.	8.65
4655-A	42	3 lb. 0 oz.	6.60
4655-B	43	3 lb. 8 oz.	9.70
4658	43	5 lb. 8 oz.	8.40
4658-A	43	6 lb. 8 oz.	9.70
4676	43	3 lb. 8 oz.	8.25
4676-A	44	2 lb. 5 oz.	7.80
4813	74	2 lb. 4 oz.	5.90
4839	44	2 lb. 0 oz.	5.85
4839-A	44	3 lb. 8 oz.	3.75
4839-D	44	2 lb. 8 oz.	4.35
4851	45	6 lb. 8 oz.	11.00
4851-A	45	3 lb. 7 oz.	16.70
4851-B	45	6 lb. 12 oz.	8.20
4851-C	45	5 lb. 15 oz.	12.50
4851-E	46	9 oz.	2.95
4851-F	46	8 oz.	2.80
4858-B	46	3 lb. 8 oz.	10.50
4858-D	46	4 lb. 0 oz.	10.80
4858-E	47	1 lb. 8 oz.	7.20
4858-F	47	4 lb. 0 oz.	8.35
4858-G	47	3 lb. 3 oz.	6.85
4859	47	2 lb. 4 oz.	5.20
J-5071	100	4 oz.	2.10
FLM-5464	20	21 lb. 12 oz.	38.50
FLM-5464-A	20	7 lb. 12 oz.	19.75
5560	19	1 lb. 0 oz.	9.90
5560-A	19	7 lb. 3 oz.	15.90
5780	20	3 lb. 3 oz.	8.65
6000	51	6 lb. 0 oz.	11.10
6000-A	51	2 lb. 12 oz.	5.60
6000-AA	6*	15 lb. 4 oz.	21.50
6000-AB	5**	8 lb. 2 oz.	10.30
6000-J	117	12 lb. 9 oz.	14.50
6000-JJ	118	13 lb. 8 oz.	14.00
6005	49	5 lb. 0 oz.	10.70
6005-AA	49	16 lb. 8 oz.	17.60
6005-AES	fi	97 lb. 0 oz.	105.70
6005-B	49	14 lb. 8 oz.	17.25
6005-BA	48	44 lb. 0 oz.	59.90
6005-BK	6*	26 lb. 0 oz.	30.00
6005-BL	6*	13 lb. 6 oz.	32.50
6005-CA	6*	25 lb. 12 oz.	32.50
6005-CB	6*	13 lb. 2 oz.	32.50
6005-CC	7**	14 lb. 10 oz.	27.75
6005-CD	7**	14 lb. 6 oz.	29.95
6005-D	48	54 lb. 0 oz.	45.80
6005-DES	fi	130 lb. 0 oz.	132.10
6005-G	49	14 lb. 0 oz.	17.25
6005-K	49	8 lb. 2 oz.	22.45
6005-P	48	9 lb. 0 oz.	12.00
6005-PB	48	20 lb. 0 oz.	18.00
6005-T	48	13 lb. 8 oz.	8.40
6007	49	5 lb. 8 oz.	12.95
6007-A	52	4 lb. 8 oz.	17.40
LM-6011	52	5 lb. 4 oz.	14.50
6011-A	52	4 lb. 14 oz.	15.25
6011-B	52	2 lb. 5 oz.	7.15
6014	49	22 lb. 4 oz.	21.75
6015	6*	8 oz.	1.75
6015-A	6*	15 oz.	4.10
6015-G	6*	11 oz.	$ 3.30
6015-H	6*	10 oz.	2.25
6049-A	53	6 oz.	2.30
6050-A	53	3 lb. 6 oz.	7.75
6050-B	49	1 lb. 5 oz.	5.70
6051	6*	1 lb. 0 oz.	2.15
6051-A (Set)	6*	1 lb. 9 oz.	2.25
6059	6*	1 lb. 4 oz.	4.80
6085	6*	9 oz.	12.45
6085-1	6*	3 oz.	4.15
6085-2	6*	3 oz.	4.15
6085-3	6*	3 oz.	4.15
6085-A (Set 2)	6*	3 lb. 4 oz.	11.40
6085-C	6*	12 oz.	3.90
6085-D	6*	4 lb. 8 oz.	13.80
6085-F	2**	4 lb. 8 oz.	13.80
FLM-6110-A	53	4 oz.	9.15
LM-6110	53	1 lb. 0 oz.	2.50
LM-6110-A	6*	1 lb. 4 oz.	6.40
6110-A	53	7 lb. 12 oz.	6.60
6135	54	13 oz.	8.25
6135-A	54	1 lb. 0 oz.	8.55
6135-B	54	1 lb. 2 oz.	11.00
6135-C	6*	13 oz.	1.90
6135-D	6*	14 oz.	1.95
6135-E	2**	1 lb. 2 oz.	3.35
FLM-6149	54	12 oz.	1.55
6149-2	54	6 oz.	3.60
6149-3	54	6 oz.	3.60
6149-4	54	7 oz.	3.60
6149-6	6*	8 oz.	3.60
6149-7	6*	8 oz.	3.60
6149-9	2**	8 oz.	3.60
6150	55	6 oz.	2.50
6150-A	55	6 oz.	2.50
L-6200	55	12 oz.	2.75
6205	55	12 oz.	3.40
6207-C	2**	1 lb. 0 oz.	3.10
6207-D	2**	1 lb. 0 oz.	4.95
6207-E	2**	2 lb. 4 oz.	18.00
6251-A	56	7 oz.	9.75
6251-AA	56	11 oz.	5.60
6251-AB	56	11 oz.	5.60
6251-AC	56	12 oz.	15.75
6251-B	56	7 oz.	9.65
6251-C	56	7 oz.	9.65
6251-D	56	7 oz.	9.65
6251-E	56	3 oz.	5.50
6251-F	56	3 oz.	5.50
6251-G	56	3 oz.	5.50
6251-H	56	3 oz.	5.50
6251-J	56	1 lb. 0 oz.	18.00
6251-K	56	9 oz.	11.20
6251-L	56	9 oz.	11.20
6254-B	55	1 lb. 0 oz.	3.60
6254-C	57	1 lb. 8 oz.	7.85
6256-A	57	3 lb. 0 oz.	6.50
6256-AA	57	3 lb. 4 oz.	11.40
6256-AB	58	2 lb. 0 oz.	11.15
6256-AC	2**	2 lb. 0 oz.	9.90
6256-BB	58	2 lb. 8 oz.	13.20
6256-BC	2**	1 lb. 2 oz.	6.25
6261-A	59	7 lb. 4 oz.	15.90
6261-B	59	10 lb. 5 oz.	19.30
6261-C	6*	16 lb. 0 oz.	27.75
6261-D	6*	15 lb. 0 oz.	25.85
6264	59	2 lb. 5 oz.	16.70
6266	59	2 lb. 8 oz.	5.40
6266-A	60	2 lb. 10 oz.	6.15
6266-B	6*	1 lb. 4 oz.	4.75
6266-C	6*	1 lb. 2 oz.	4.80
6303-C	60	4 lb. 8 oz.	5.90
6303-D	60	4 lb. 8 oz.	5.90
6303-E	100	2 lb. 2 oz.	10.85
6303-F	2**	2 lb. 0 oz.	8.25
6306-A	60	3 lb. 12 oz.	6.80
6306-AA	61	5 lb. 0 oz.	10.50
6306-AB	60	3 lb. 9 oz.	14.20
6306-AC	6*	3 lb. 15 oz.	13.25
6306-AC-5B	6*	12 oz.	3.45
6306-AD	6*	3 lb. 10 oz.	15.20
6306-AE	2**	4 lb. 2 oz.	15.50
6306-AE	3**	2 lb. 4 oz.	5.50

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6306-C	61	4 lb. 5 oz.	$10.50
6306-H	60	5 lb. 12 oz.	15.60
6306-J	61	4 lb. 12 oz.	10.10
6306-K	61	3 lb. 3 oz.	9.85
6307-A	61	4 lb. 2 oz.	15.50
6312-J	61	1 lb. 6 oz.	9.45
6316-C	62	2 lb. 0 oz.	6.50
6316-F	62	3 lb. 5 oz.	7.20
6316-FF	6*	5 lb. 2 oz.	10.60
6331	107	2 oz.	1.55
6336-A	6*	1 lb. 4 oz.	7.60
6360	62	3 lb. 4 oz.	6.70
6360-A	62	3 lb. 0 oz.	8.70
6384	62	12 lb. 0 oz.	10.60
6387	63	1 lb. 0 oz.	8.55
6387-AA	63	1 lb. 0 oz.	8.45
6387-D	63	7 lb. 4 oz.	27.50
6387-E	63	4 oz.	6.05
6500-B	127	1 lb. 4 oz.	8.25
6500-C	6*	5 oz.	1.65
6500-D	6*	12 oz.	3.30
LM-6505-A	63	1 lb. 8 oz.	9.70
6505-AA	107	5 lb. 0 oz.	51.50
6505-C	64	3 lb. 4 oz.	6.50
6510-AA	64	4 oz.	5.20
6510-AAA	64	3 oz.	5.20
6510-AF	3**	1 lb. 12 oz.	7.15
6510-B	64	1 lb. 10 oz.	5.30
6510-BB	65	7 lb. 8 oz.	22.45
6510-BB-1	65	6 oz.	8.60
6510-BB-2	65	6 oz.	8.60
6510-D	64	5 oz.	5.20
6510-F	66	4 lb. 8 oz.	2.95
6510-J	66	1 lb. 14 oz.	5.40
6510-K	66	1 lb. 6 oz.	18.50
6510-L	66	4 lb. 0 oz.	12.40
6512	67	3 lb. 12 oz.	18.20
LM-6512-A	67	3 lb. 0 oz.	6.60
LM-6512-B	67	6 oz.	2.95
LM-6512-C	67	5 oz.	1.80
6513-A	68	3 lb. 8 oz.	9.60
6513-A-2	68	3 oz.	4.95
6513-AA	70	3 oz.	4.85
6513-B	68	3 lb. 0 oz.	7.20
6513-BB	70	1 lb. 8 oz.	3.80
6513-C	68	2 lb. 2 oz.	8.25
6513-CE-2	128	8 oz.	12.50
6513-D	68	1 lb. 9 oz.	3.00
6513-E	69	4 oz.	2.25
6513-EE	6*	7 lb. 8 oz.	8.20
6513-F	71	3 lb. 12 oz.	5.90
6513-F-1	71	1 lb. 8 oz.	1.50
6513-F-2	71	1 lb. 10 oz.	1.65
6513-G	69	3 lb. 3 oz.	6.65
6513-H	fi	1 lb. 0 oz.	5.75
6518	71	6 oz.	1.95
6518-AA	106	12 oz.	1.35
6519	72	15 lb. 0 oz.	16.90
6519-D	72	15 lb. 8 oz.	16.90
6519-E	72	1 lb. 8 oz.	20.90
6519-F	72	16 lb. 0 oz.	20.25
6549 (Pr.)	72	5 oz.	1.80
6549-A (Pr.)	72	10 oz.	3.30
6549-B	6*	8 oz.	1.45
6549-C	3**	12 oz.	2.45
6656-A	73	2 lb. 0 oz.	5.60
6656-B	73	14 oz.	3.80
6700-B	6*	1 lb. 6 oz.	5.40
6701	6*	1 lb. 12 oz.	8.75
6701-A	6*	1 lb. 12 oz.	8.75
6915-AA	85	2 oz.	1.95
6919	85	10 oz.	3.80
6919-L	85	7 oz.	3.80
7000	74	11 lb. 4 oz.	17.20
7000-A (Pr.)	75	4 oz.	2.30
7000-AA	fi	8 oz.	4.95
7000-AB	fi	4 oz.	.75
7000-AC	fi	2 lb. 12 oz.	8.95
7000-B-1	100	2 oz.	.95
7000-C	100	1 lb. 3 oz.	3.45
7000-CC	100	15 lb. 4 oz.	23.80
7000-CD	118	2 lb. 12 oz.	6.95
7000-C-2	117	6 lb. 2 oz.	$15.50
7000-C-2-A	fi	8 oz.	1.25
7000-D	99	13 lb. 10 oz.	16.60
7000-DD	117	1 oz.	.85
7000-DE	117	10 oz.	4.65
7000-E	115	160 lb. 0 oz.	172.50
7000-EA	fi	8 lb. 0 oz.	13.00
7000-EB	fi	8 lb. 8 oz.	13.00
7000-EC	fi	20 lb. 0 oz.	13.00
7000-ED	fi	20 lb. 0 oz.	13.00
7000-EE	fi	20 lb. 0 oz.	16.50
7000-EF	fi	17 lb. 0 oz.	25.75
7000-EG	fi	12 lb. 12 oz.	22.50
7000-F	fi	130 lb. 0 oz.	122.50
7000-G	10*	1 lb. 0 oz.	9.60
7000-H	10*	4 lb. 11 oz.	7.30
7001	100	1 lb. 8 oz.	7.15
7005	74	10 lb. 0 oz.	18.00
FLM-7005	75	5 lb. 4 oz.	5.70
7005-B	75	5 lb. 10 oz.	5.90
7025	75	7 lb. 12 oz.	16.80
LM-7025	75	1 lb. 4 oz.	4.85
7025-A	76	8 lb. 0 oz.	19.80
7025-B	85	4 lb. 12 oz.	9.95
7025-C	76	6 lb. 0 oz.	16.75
7025-D	76	3 lb. 0 oz.	14.50
7039	77	13 oz.	3.90
7045	77	4 lb. 0 oz.	4.95
7052-A	86	2 lb. 8 oz.	8.80
7063	77	8 oz.	4.90
7064	77	8 oz.	4.25
7065	78	1 lb. 8 oz.	3.60
7065-A	78	5 lb. 0 oz.	8.45
7069	78	1 lb. 8 oz.	4.15
7089	78	3 lb. 0 oz.	7.90
7105	79	3 lb. 4 oz.	6.20
7111	79	1 lb. 8 oz.	2.50
7111-A	79	2 lb. 12 oz.	2.80
7113	80	2 lb. 0 oz.	19.90
7113-A	80	4 lb. 0 oz.	21.90
7113-B	79	5 oz.	2.05
7117	80	1 lb. 4 oz.	2.30
7118	86	4 oz.	1.35
7121	79	13 oz.	2.60
7124	81	8 oz.	2.95
7140	81	6 lb. 0 oz.	22.00
7140-A	81	2 lb. 8 oz.	7.50
7141	81	10 oz.	3.05
7195	119	7 lb. 12 oz.	33.65
7224	82	4 oz.	1.10
7225	119	1 lb. 3 oz.	24.45
7227	82	2 lb. 0 oz.	6.10
LM-7235	82	7 oz.	2.30
7240	82	3 oz.	1.50
FLM-7550	83	2 lb. 8 oz.	4.80
7563	84	9 lb. 0 oz.	34.20
7563-A	84	1 lb. 7 oz.	6.05
7600-B	84	3 lb. 12 oz.	9.40
7600-C	84	1 lb. 8 oz.	4.45
7600-D	84	1 lb. 8 oz.	5.30
7600-E	85	5 lb. 0 oz.	7.15
7600-F	6*	1 lb. 7 oz.	4.90
7600-G-2	10*	2 lb. 2 oz.	5.35
7657	119	3 lb. 6 oz.	10.40
7657-B	120	1 lb. 5 oz.	2.55
7657-K	83	5 lb. 12 oz.	12.90
7657-L	83	3 lb. 9 oz.	12.90
7688	86	1 lb. 0 oz.	5.40
7692	10*	2 lb. 8 oz.	7.50
7697	86	4 lb. 0 oz.	6.40
7698	86	4 lb. 0 oz.	7.40
7699	83	7 lb. 13 oz.	8.25
7699-A	83	2 lb. 0 oz.	3.80
7919	10*	1 lb. 0 oz.	5.35
7946	120	1 lb. 0 oz.	6.05
7975	120	2 oz.	.95
8501-C	103	21 lb. 0 oz.	36.50
8501-C-1	103	4 lb. 8 oz.	4.40
8501-C-2	103	4 lb. 14 oz.	8.80
8501-C-3	103	3 lb. 6 oz.	4.90
8501-C-4 -L/R	103	3 lb. 12 oz.	7.25
8501-C-5-RH	103	2 lb. 2 oz.	4.60

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8501-C-5-LH	103	2 lb. 2 oz.	$ 4.80
8501-C-6	103	8 oz.	2.20
8501-C-7	103	1 oz.	1.65
8501-C-8	103	7 oz.	1.20
8501-C-9	103	6 oz.	2.50
8501-C-10	103	9 oz.	1.50
8501-C-11	103	8 oz.	1.35
8501-C-12	103	1 lb. 1 oz.	1.25
8501-C-13	103	4 oz.	1.55
8501-C-14	103	4 oz.	1.55
8501-C-18	103	8 oz.	2.40
8501-C-19	103	4 oz.	.95
8501-C-20	103	3 oz.	.95
8501-C-21	103	3 oz.	.90
8501-C-22	103	3 oz.	.75
8501-C-23-AB	103	11 oz.	2.45
8501-C-24	103	8 oz.	2.10
8501-C-25	103	4 oz.	.90
8501-C-26	103	6 oz.	1.60
8501-CB	103	4 lb. 7 oz.	4.95
8501-DD	6*	25 lb. 0 oz.	24.00
8501-DE	6*	13 lb. 8 oz.	17.75
8509-A	fi	23 lb. 0 oz.	29.25
FM-8520	88	12 oz.	7.00
L-8520	88	14 oz.	7.50
L-8520-A	88	1 lb. 0 oz.	9.00
8520-B	88	1 lb. 8 oz.	6.00
8564-A	88	1 lb. 0 oz.	2.90
8564-B	89	1 lb. 0 oz.	6.50
LM-9278	73	1 lb. 8 oz.	5.40
9350	89	3 oz.	.90
9350-A	89	3 oz.	.55
9400-B	11*	4 oz.	3.30
9505-A	128	3 oz.	3.05
FM-9510	89	3 oz.	2.05
FLM-9510-A	89	5 oz.	3.30
9510-AA	91	3 oz.	3.70
9510-AHD	fi	3 oz.	3.05
9510-B	90	3 oz.	2.80
9510-BB	91	9 oz.	3.60
9510-C	90	1 lb. 6 oz.	9.65
9510-D	91	7 lb. 0 oz.	4.95
9524 (Pr.)	90	3 oz.	1.50
9533	91	3 oz.	4.20
9541	91	1 oz.	1.40
9544	91	2 oz.	4.10
9550	90	12 oz.	3.10
9550-AA	11*	2 oz.	1.70
9550-AB	11*	12 oz.	5.25
9550-AD	11*	8 oz.	1.70
9550-AE	11*	7 oz.	6.00
9550-AE-1	11*	4 oz.	3.50
9550-AE-2	11*	2 oz.	1.05
9550-AE-3	11*	2 oz.	1.45
9550-B	92	6 oz.	2.15
9550-C	92	10 oz.	3.30
9550-CAD	fi	3 oz.	1.70
9550-D	91	1 oz.	.30
9550-E	91	4 oz.	1.70
9550-F	fi	3 oz.	3.10
9564	91	8 oz.	4.20
9586	92	10 oz.	9.70
9594-A	92	12 oz.	5.20
9631	91	6 oz.	2.35
FLM-9904	93	12 oz.	3.15
9904-A	93	1 lb. 3 oz.	6.20
9904-B	92	8 oz.	3.65
9904-C	93	6 oz.	1.65
9956	93	10 oz.	5.65
9956-A	93	1 lb. 0 oz.	.60
9956-B	93	1 lb. 0 oz.	.60
10505	94	1 lb. 12 oz.	4.50
10505-AA	94	1 lb. 0 oz.	5.55
10505-C-2	94	10 oz.	.85
10505-D	94	3 oz.	15.40
12127	6*	8 oz.	2.00
12131	94	2 lb. 0 oz.	$ 6.60
12131-A	95	1 lb. 2 oz.	16.80
12131-C	11*	2 lb. 4 oz.	5.35
12132	95	6 oz.	8.20
12132-A	95	2 lb. 8 oz.	10.20
12132-B	95	1 lb. 0 oz.	3.75
12132-B-1	95	6 oz.	2.10
12132-C	11*	1 lb. 4 oz.	5.85
12132-D	11*	1 lb. 4 oz.	5.85
12132-E	3**	12 oz.	3.35
12150-D	96	6 oz.	4.50
12151	96	3 oz.	3.75
12175	11*	12 oz.	2.05
12390-B	88	1 lb. 0 oz.	5.40
12390-C	11*	3 lb. 6 oz.	8.50
12390-D	11*	1 lb. 8 oz.	6.50
17470	96	4 oz.	4.95
LM-18055-6	96	2 lb. 12 oz.	3.45
18080-B	97	14 oz.	4.35
18080-C	97	½ oz.	1.55
18080-D	97	1 oz.	2.15
18080-E	97	6 oz.	5.85
18080-F	97	9 oz.	6.75
18080-G	97	3 oz.	2.05
18080-H	97	4 oz.	2.25
18080-K	97	11½ oz.	4.30
18080-L	97	9 oz.	4.45
18182	3*	10 oz.	3.25
18204	98	11 lb. 6 oz.	21.00
M-18878	96	5 oz.	2.60
18918	127	4 oz.	1.05
21812	124	2 oz.	1.50
22801	95	10 oz.	5.55
FM-31036	98	8 oz.	1.30
33551	fi	10 oz.	8.95
33551-A	fi	14 oz.	4.10
33560	fi	1 lb. 4 oz.	3.75
33562	fi	10 oz.	3.25
33562-B	fi	2 oz.	1.75
33565	fi	10 oz.	3.25
33568	fi	2 oz.	1.65
33569	fi	4 oz.	2.50
33576	fi	7 lb. 0 oz.	8.85
33576-A	fi	2 lb. 8 oz.	5.35
33577	fi	14 oz.	2.90
33587	fi	1 lb. 0 oz.	3.50
33621	fi	4 oz.	1.50
33623	fi	12 oz.	3.25
33627	fi	4 oz.	1.45
42052-A	fi	4 oz.	3.95
42052-B	fi	10 oz.	7.20
51700	127	4 oz.	3.00
77067	120	8 oz.	1.85
77230-F	121	3 oz.	1.75
77230-FA-52	127	6 oz.	4.75
77230-M	121	6 oz.	2.70
77230-MAA	127	5 oz.	3.85
77270-A	121	12 oz.	17.50
77288	121	12 oz.	4.65
77447	fi	8 oz.	4.85
77507-A	fi	12 oz.	2.35
77507-B	fi	2 lb. 0 oz.	7.25
77508-A	fi	12 oz.	2.35
77515	121	1 lb. 12 oz.	9.70
77530	121	3 lb. 8 oz.	3.15
77565	122	2 lb. 8 oz.	6.25
77763	124	12 oz.	2.85
77820	122	1 lb. 5 oz.	11.25
77837	122	3 lb. 12 oz.	8.75
77869	122	3 oz.	3.25
L-0021248-9	98	12 oz.	2.65
L-0022618	98	1 lb. 0 oz.	2.50
L-5623200	97	6 oz.	1.35
7022614	99	5 oz.	1.30
7322800	99	5 lb. 12 oz.	10.15
7322800-A	99	5 lb. 12 oz.	10.15
L-7324206	99	2 oz.	.60
L-7343505	99	2 oz.	.30

Prices subject to change.
Orders acknowledged at current prices.

* *On page refers to 1952 FLM Catalog*
** *On page refers to 1953 Tractor Catalog*
fi *On page refers to brochure - write for information*
All other page references are 1949-51 Standard Catalog

TERMS

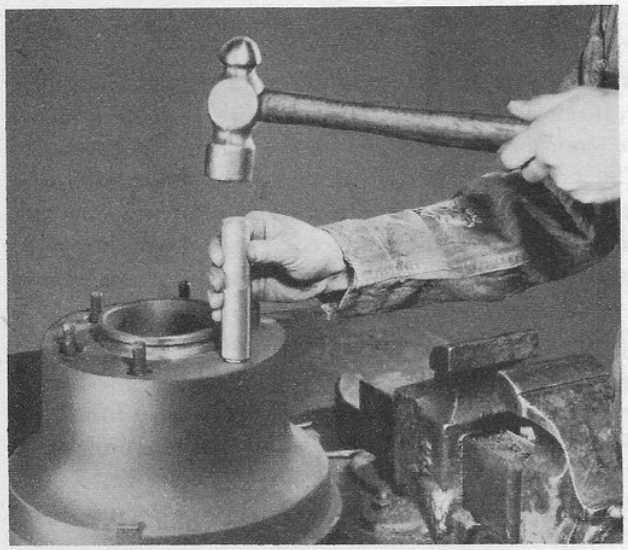
Unless otherwise advertised, all merchandise is shipped F.O.B. Buffalo, New York.

RETURNED GOODS

Shipping errors on our part will be cheerfully and promptly rectified by us. Claims must be reported within 30 days after receipt of shipment by consignee. No claims will be allowed on material returned without our authority. Write for shipping instructions and "returned goods" tag stating clearly as to defect or reasons for return. All returned goods must be returned transportation prepaid.

Material shipped on customer's specific order, if returned for credit, is subject to a service and reconditioning charge and should be prepaid.

Manzel



Swage • Hub Bolt • Front and Rear

No. FM-1102

FOR

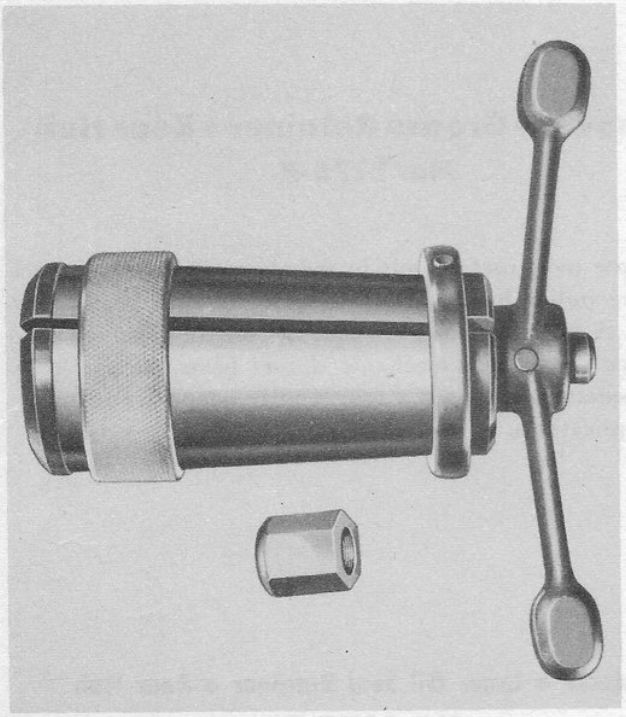
1940-1948 Mercury • 1940-1948 Ford Passenger Car

No. FM-1102-A

FOR

1936-1939 Mercury • 1936-1939 Ford Passenger Car

A heat treated alloy steel swaging punch that quickly and thoroughly swages hub bolts in place so they stay. Hardened to withstand unusually severe treatment and cadmium plated to resist corrosion.



Puller Assembly • Rear Hub

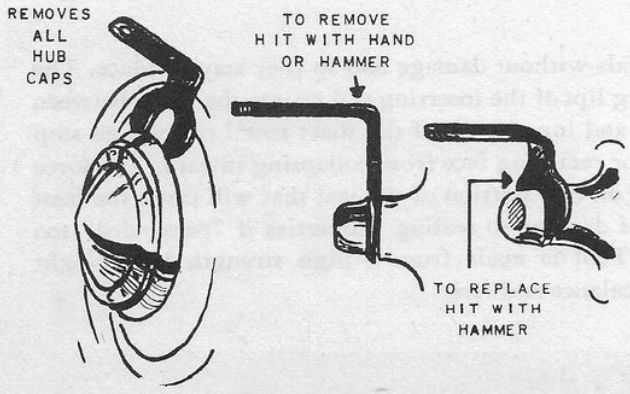
Complete with Axle Nut

No. FLM-1113

No. FLM-1113-1

Extra Axle Nut for FLM-1113

Specially designed for use on Lincoln, Mercury and Ford, this tool quickly pays for itself in time saving. Made entirely of a high grade steel, heat treated and hardened to give maximum wear and the ability to "take it." The puller is so constructed that the entire puller stays in one compact unit. No loose pieces to contend with. The knurled sliding sleeve closes the jaws behind the hub. NO WRENCH NEEDED—the convenient wing type forged steel nut eliminates the need for a wrench. A sharp hammer blow on the end of the puller screw after tension is applied will loosen the toughest hub without damage to puller or parts. A special axle nut is furnished with tool to prevent spreading or damage to axle thread.



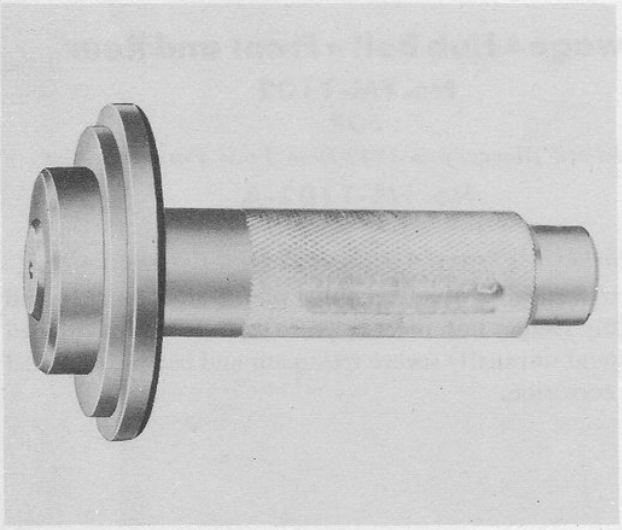
Remover and Replacer — Grease Cap — Front and Rear Hub

Also

Remover — Hub Cap

No. 1139

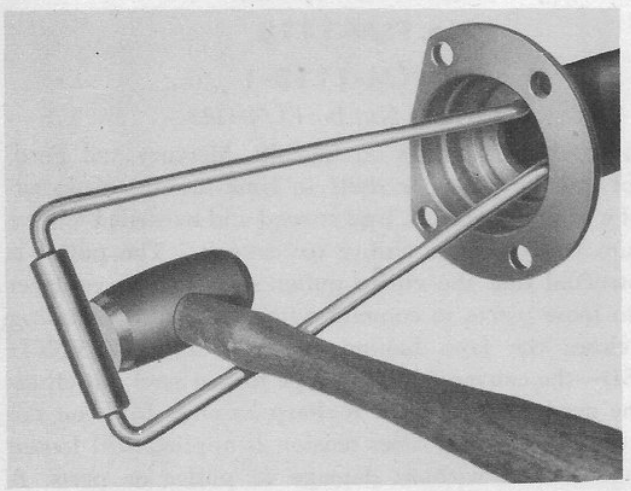
Saves damaging and replacement of Caps when installing static collector springs — Speeds up the job — Your Lubrication Dept. and New Car Preparation Dept. should each have one.



Replacer • Grease Retainer • Rear Hub
No. 1175-A

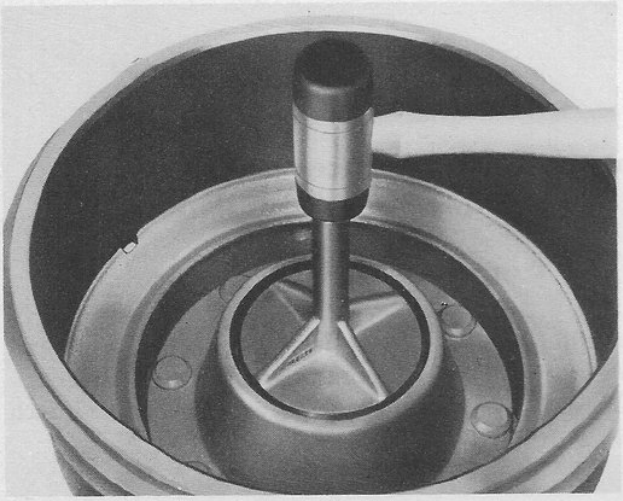
One of the most important installations in the car, the grease retainer, if not properly installed can easily develop into considerable "non-profit" expense to the service mechanic or shop. The pressing face of this tool is machined to mate with the retainer face and the protruding pilot snugly mates with the I.D., thus sizing and centering it with an even distribution of the inserting force. The tool has a convenient knurled handle with reduced diameter knocker head and is hard bright nickel plated to resist corrosion.

Warning: As the thin sheet metal casing of the retainer is easily dented and bent, care should be exercised in installing same. No other "make shift" means should be considered.



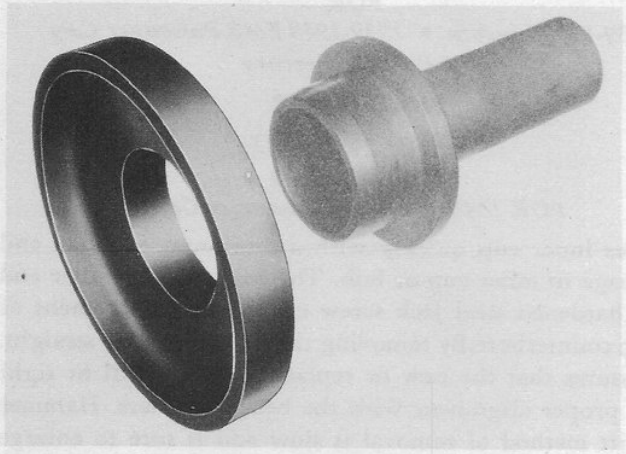
Remover • Grease Retainer • Rear Hub
No. 1175-B

One of the most useful tools in the shop. The spring effect holds the puller hooks firmly in place behind bearing or retainer. A few hammer blows on the handle does the job. As a time saver, each mechanic should have one available for immediate use as it is a tool readily adaptable to many other applications.



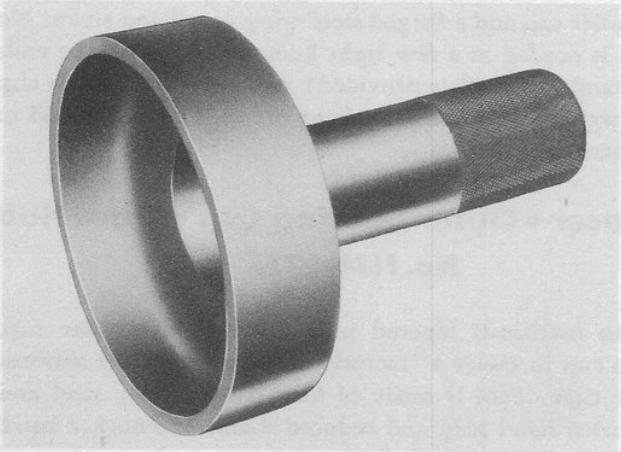
Replacer • Inner Oil Seal Retainer • Rear Hub
No. 1175-C

Installs seals without damage and so they stay in place. The protruding lips of the inserting end fit into the space between the outer and inner walls of the sheet metal casing and stop the O.D. or retaining face from collapsing inward. The force is exerted on that portion of the seal that will cause the least amount of damage to sealing properties if "persuaded" too severely. Tool is made from a high strength lightweight alloy for balance and feel.



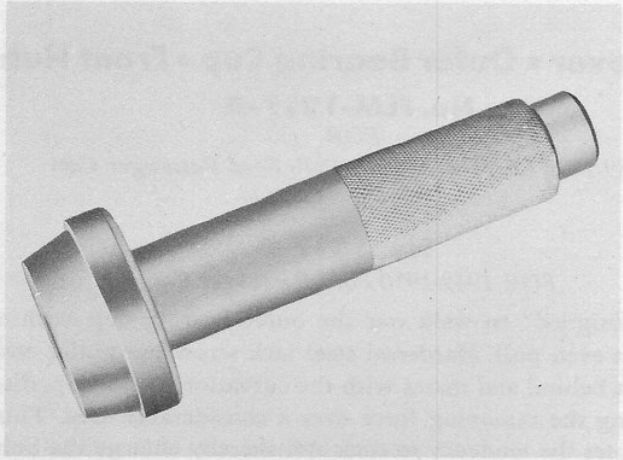
Replacer • Inner Oil Seal • Rear Hub
No. 1175-E

Another factory "must" used in connection with tool No. 1175-D to replace the Inner Oil Seal. The replacer is over 5" in diameter and is counterbored to form a protruding lip that bears on the extreme outside of the seal retainer or case. This stops the seal from collapsing or distorting inward. The tool has a hole bored to size to enable tool No. 1175-D to be inserted and used as the driving head. (Tool 1175-D is found on Page 21.



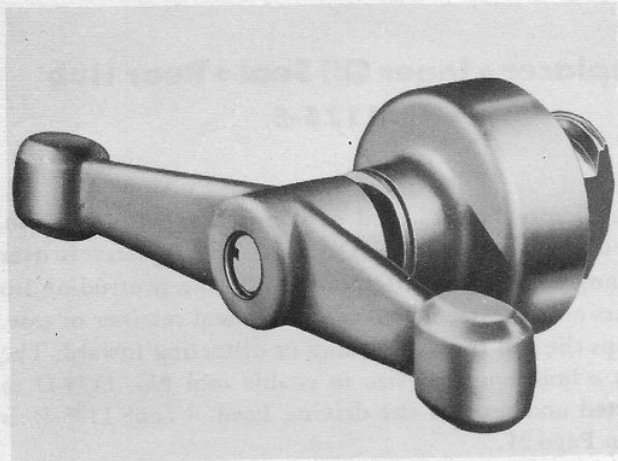
Replacer • Inner Oil Seal • Rear Hub
No. 1175-F

The insertion end of this tool is accurately machined to fit over the protruding portions of the oil seal and contacts only the outer diameter of the sheet metal casing. A necessary tool to assure the installation of seals without damage.



Replacer • Inner Bearing Cup • Front Hub
No. FLM-1202
FOR
1939-1950 Lincoln • 1939-1948 Ford Passenger Cars
1939-1948 Mercury
No. 1202-C
FOR
1949-1950 Mercury

The tapered pilot is accurately machined to mate with the roller bearing cup, assuring an even distribution of the inserting force and eliminating tendency to cock or bind. Tool has knurled hand grip, reduced diameter knocker head and is hard bright nickel plated to resist corrosion. Be sure of a fully bottomed cup installed in the least possible time by using only the "tool designed for the job."



Remover • Inner Bearing Cup • Front Hub

No. FLM 1202-A

FOR

1939-1950 Lincoln • 1939-1948 Ford Passenger Cars
1939-1948 Mercury

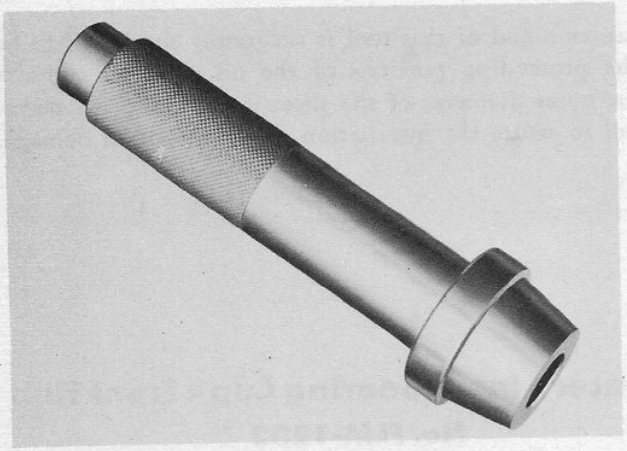
No. 1202-B

1949-1950 Mercury

No. 1202-D

FOR 1949-1950 Ford Passenger Cars

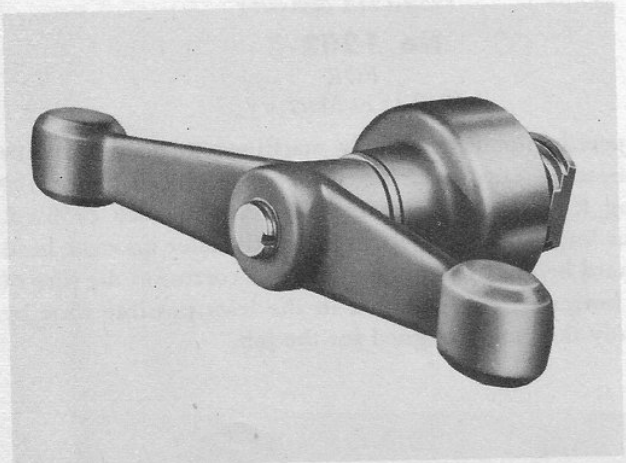
Removes inner cup quickly with a minimum of effort and no damage to inner cup or hub. The form fitting puller end of the hardened steel jack screw eliminates enlargement of the hub counterbore by removing the cup absolutely straight. This assures that the new or replacement cup will fit tight and in proper alignment with the bearing rollers. Hammer and drift method of removal is slow and is sure to enlarge the counterbore by cocking the bearing — in many instances to such an extent that the replacement inner cup will turn in the hub. The remover has a light weight, high strength alloy puller cap and a forged steel wing type hand screw. No wrench is needed as a few light hammer blows on the ends of the hand screw (flats provided) will start the tightest cup on the way out. Tool is fully hard polished nickel plated to resist corrosion.



Replacer • Outer Bearing Cup • Front Hub

No. FLM-1217

Precision machined tapered pilot mating with outer cup, lines up cup to assure a "factory" installation in the shortest possible time. Tool is made of heat treated alloy steel and has knurled hand grip and reduced diameter knocker head. Fully hard polished nickel plated for corrosion resistance.



Remover • Outer Bearing Cup • Front Hub

No. FLM-1217-A

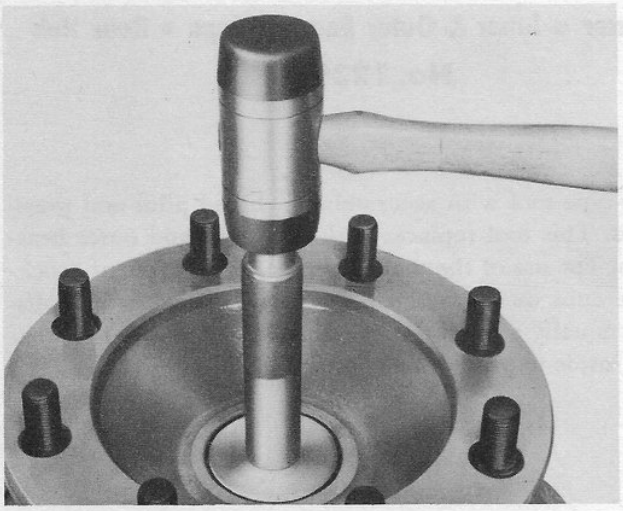
FOR

1939-1950 Lincoln • 1939-1948 Ford Passenger Cars
1939-1950 Mercury

No. 1217-D

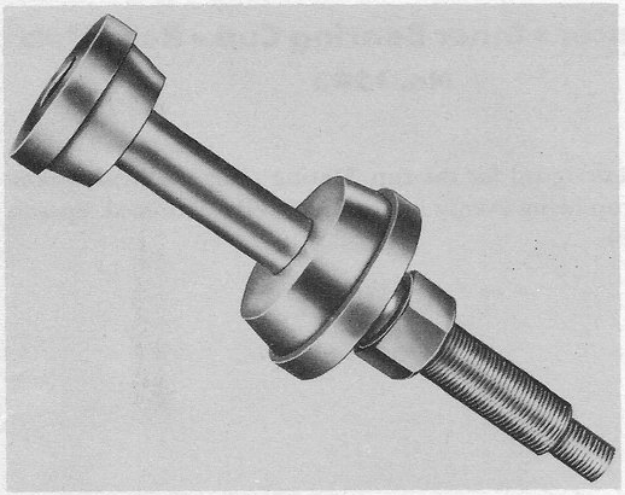
FOR 1949-1950 Ford Passenger Cars

"Job designed" to walk out the outer bearing cup with a straight even pull. Hardened steel jack screw has puller end that fits behind and mates with the curvature of the cup, distributing the removing force over a considerable area. This eliminates the tendency to cock and thereby enlarge the hub counterbore. Remover has light weight, high strength alloy puller cap and a forged steel wing type hand screw eliminating the need for a wrench. Tool is fully hard polished nickel plated to assure long life.



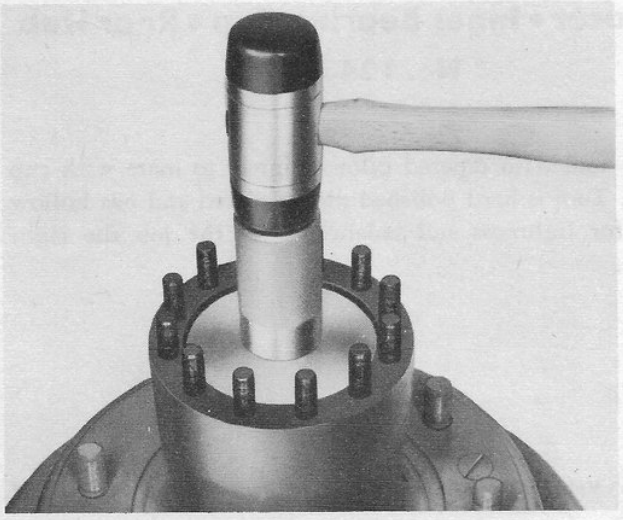
Replacer • Outer Bearing Cup • Front Hub
No. 1217-B

For fast, efficient, full bottomed cup replacement. Tapered pilot, form fitting to cup, eliminates tendency of cup to cock by applying driving force evenly on outer face of bearing cup. Assure "meeting time" thru use of this tool.



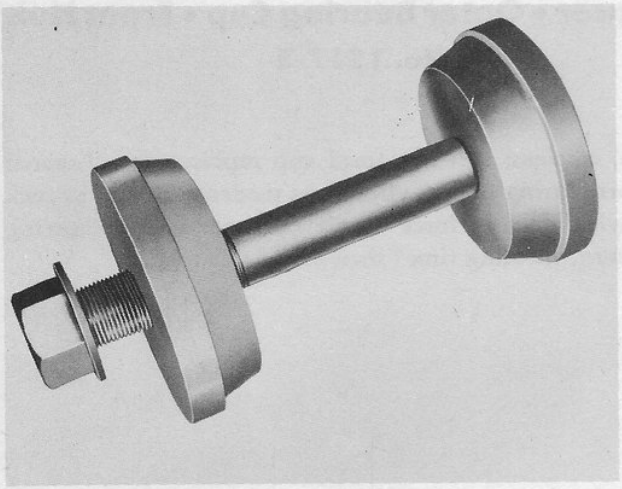
Replacer • Inner & Outer Bearing Cups • Hub
No. 1217-C

For rapid, efficient, full bottomed cup replacement. Tool will replace both inner and outer cups at the same time. The tapered pilots, form fitting to cups, eliminates tendency of cups to cock, at the same time applying force evenly on outer faces of bearing cups.



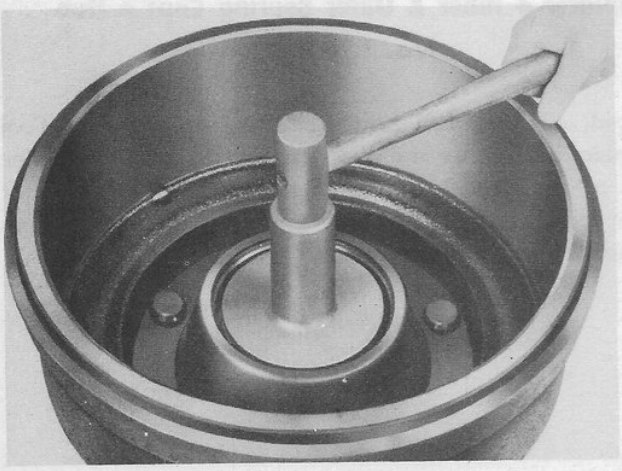
Replacer • Outer Bearing Cup • Rear Hub
No. 1239
FOR 1948-1950 Ford 3 Ton Truck
No. 1239-A
FOR 1948-1950 Ford 2 Ton Truck

Pilot and inserting face accurately machined to mate with bearing cup, thus equally distributing the driving force. Cored inside assuring a light, well balanced tool that quickly pays for itself in time saving and job efficiency.



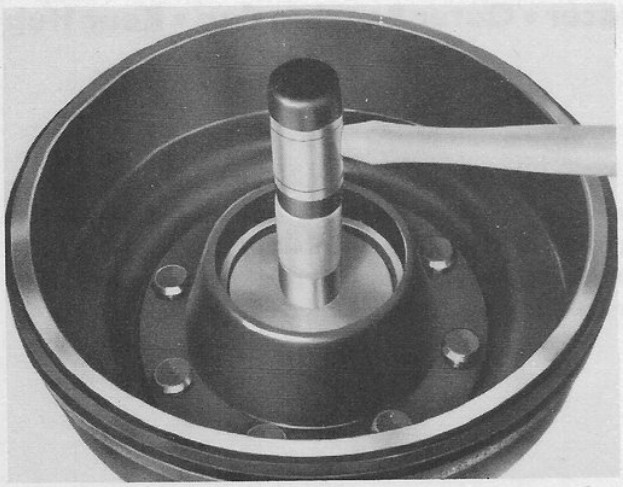
Replacer • Inner & Outer Bearing Cups • Rear Hub
No. 1239-B

A screw-type tool with accurately machined pilot and pressing faces. This tool replaces both the inner and outer bearing cups. The use of the tool eliminates the danger of "cocking" the cups during insertion as the driving force is distributed equally around the inserting face. Another tool that is cored inside to provide balance and lightness.



Replacer • Inner Bearing Cup • Rear Hub
No. 1243

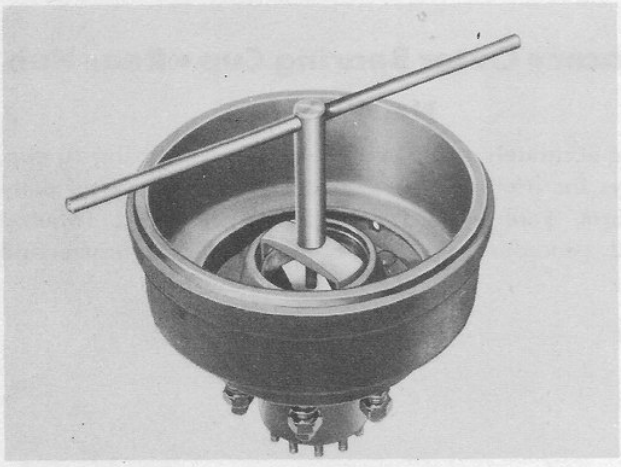
The tool designed for the cup. Mating pilot and head makes sure of cup being evenly inserted and fully bottomed. Speeds up the job.



Replacer • Inner Bearing Cup • Rear Hub
No. 1243-A

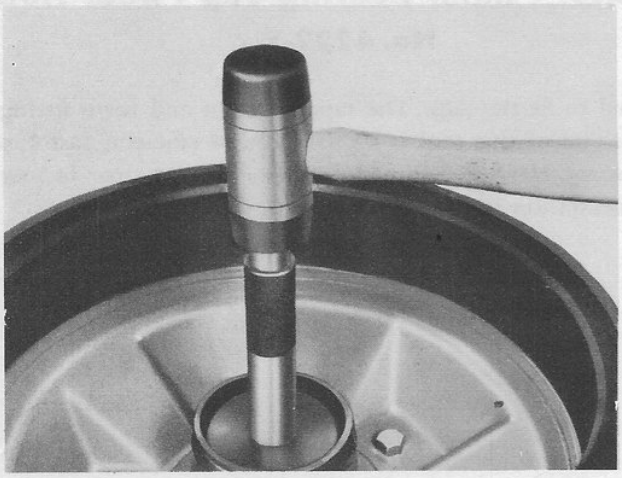
Another tool with tapered pilot designed to mate with cup surfaces. Tool is hard polished nickel plated and has hollow handle for lightness and balance. Does the job the right way fast.

NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.



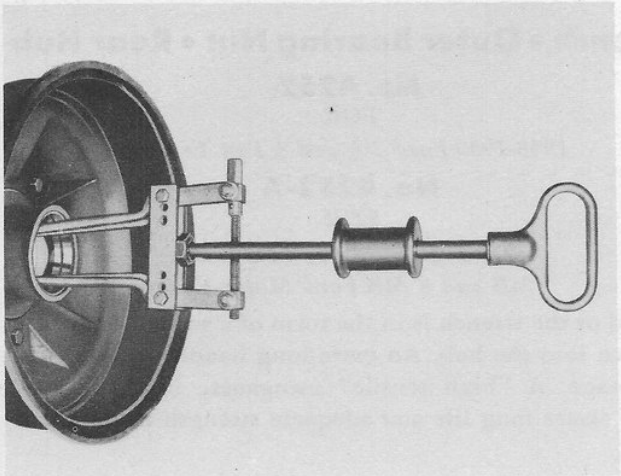
Remover • Inner Bearing Cup • Rear Hub
No. 1243-B

One cup that defies the efforts of universal type removers is the 3 Ton Inner Bearing Cup. This tool is designed specifically for this operation and is a necessity from an efficiency and time saving standpoint. The accurately machined puller leg fits into the cored recess behind the cup. The bridge member, also of high strength heat treated alloy steel, is turned on the O.D. to fit into counterbore and on I.D. to clear bearing cup O.D. The jack screw handle has sliding 20″ long handle that enables maximum leverage to be exerted on the puller leg. Make sure that replacement cup will be "tight" by removing the old cup without cocking thru the use of this tool.



Replacer • Inner Bearing Cup • Front Hub
No. 4222-B

For fast, trouble free replacement of inner bearing cups, this tool has no equal. The tapered pilot is form fitting to the cup, thereby spreading driving force equally on the cup face. In these days of part shortages a replacer is a guarantee of product protection. Eliminates the worry of replacement of a major assembly due to damaged bearing bores caused by cocked bearing cups.



Remover • Bearing Cups (Inner & Outer) • Front Hub
No. 4222-C

FOR

1948-1950 Ford 2½ and 3 Ton Trucks

Also serves as

REMOVER • DRIVE PINION BEARING CUP • REAR AXLE

FOR

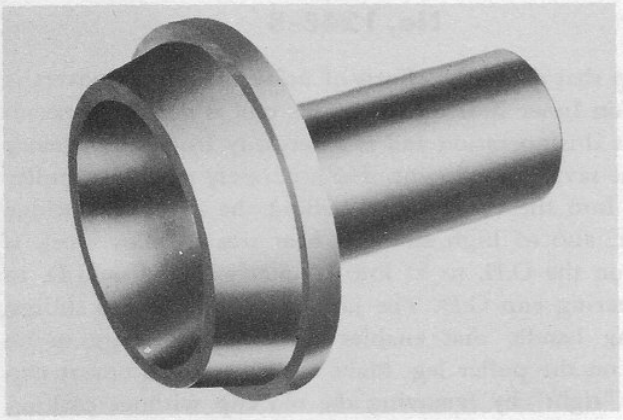
1948-1950 Ford 2 Ton Truck

REMOVER • DIFFERENTIAL SIDE BEARING CUPS • REAR AXLE

FOR

1948-1950 Ford 2½ Ton Truck
5 MB and 8 MB Ford Motor Coach

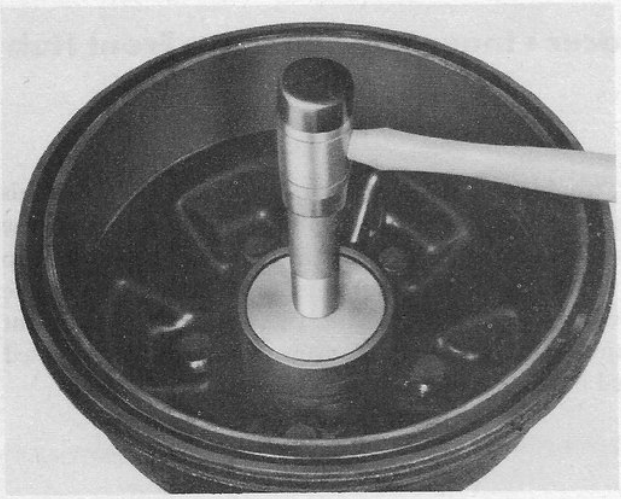
This is a multi-purpose tool readily adaptable to many time-saving uses. The leg positions may be changed to any of three positions giving a range of 1½″ min. to 6″ max. diameter at the end of the pulling lips. Legs are readily expanded behind cups and held there by the adjustment screw. The weighted hammer on the handle assembly starts the tight ones coming in a hurry. One tool that is a "must" in every garage.



Replacer • Outer Bearing Cup • Rear Hub

No. 4222-E

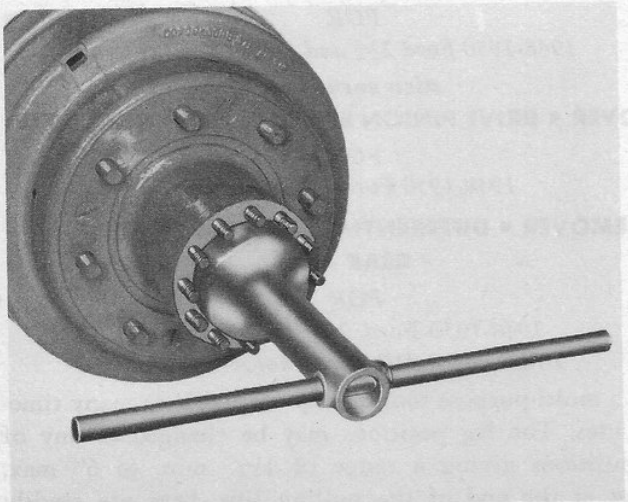
Another accurately machined replacer, form fitting to cup, that pays for itself in time saving and elimination of damaged parts. Tool is hard polished nickel plated (Manzel standard procedure) and is hollowed for lightness and balance.



Replacer • Inner Bearing Cup • Rear Hub

No. 4222-F

Designed to fit the cup. The tapered pilot and form fitting business end of this tool is a guarantee of efficient, fast cup replacement. Head is designed for arbor press use per factory recommendation for cup replacement.



Wrench • Outer Bearing Nut • Rear Hub

No. 4252

FOR

1948-1950 Ford 2½ and 3 Ton Trucks

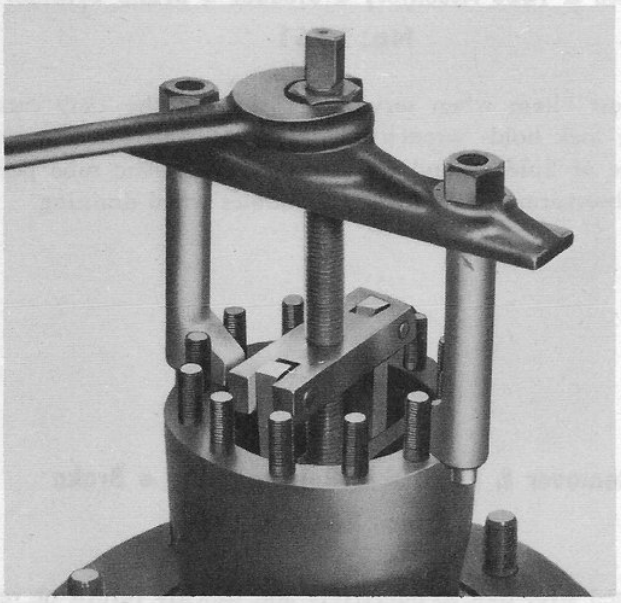
No. 4252-A

FOR

1948-1950 Ford 1½ Ton Truck

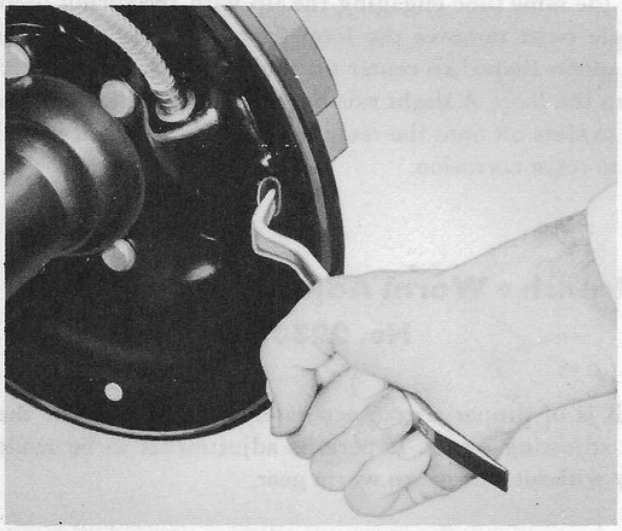
5 MB and 8 MB Ford Motor Coach

The end of the wrench is in the form of a socket that readily fits down into the hub. An extra long handle assures plenty of leverage. A "high tensile" manganese bronze alloy is used to assure long life and adequate strength to the socket.



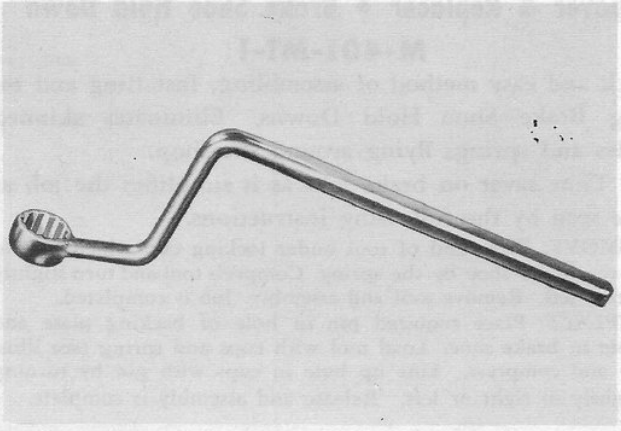
Remover • Outer Bearing Cups • Rear Hub
No. 4628-C

An efficient tool that removes cups fast and with a minimum of effort. Turning the center puller screw causes the puller legs to expand and grip tight behind the cup. A few fast turns of a wrench on the puller nut and the cup is out.



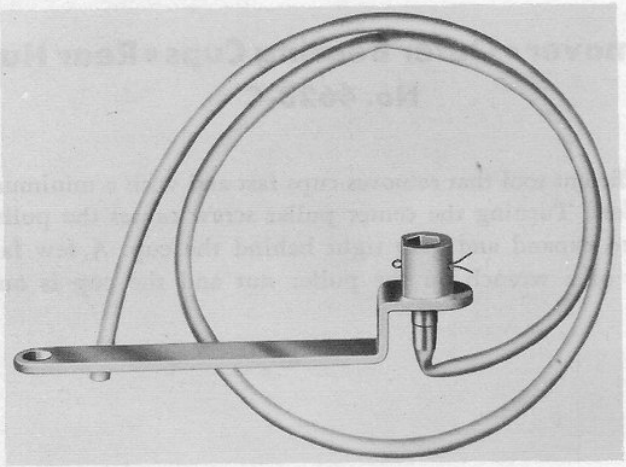
Wrench • Shoe Adjustment • Brake
No. 2018

A forged steel, specially off-set wrench for adjustment of Star Nut eccentric and all Bendix Hydraulic brakes. Usable on most modern cars. Your brake service department should have at least two or three.



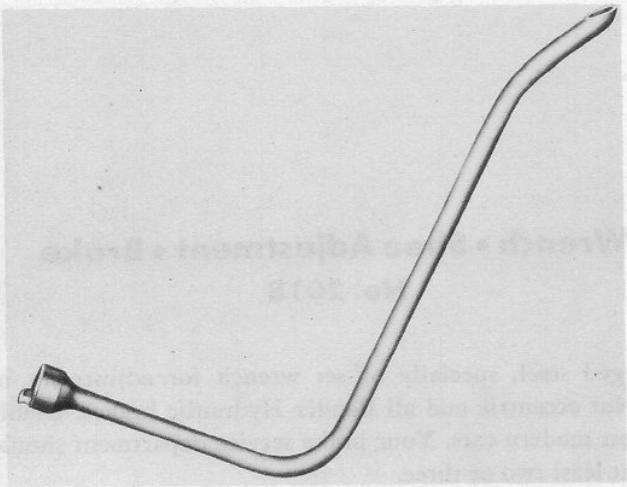
Wrench • Anchor Nut Adjustment • Brake
No. 2027
FOR
1948-1950 Ford ¾, 1 and 1½ Ton Trucks — 15/16 Hex Nut
No. 2027-A
FOR
1948-1950 Ford 2½ and 3 Ton Trucks — 1-1/16 Hex Nut

A specially designed factory approved tool to get at the hard to reach brake adjustment nut. The bends are such, that the mechanic can clear the tire and fender for fast and efficient service. The tool is a box type multiple hex wrench, to obtain positive fits, without slipping. Hard bright nickel plated to resist corrosion.



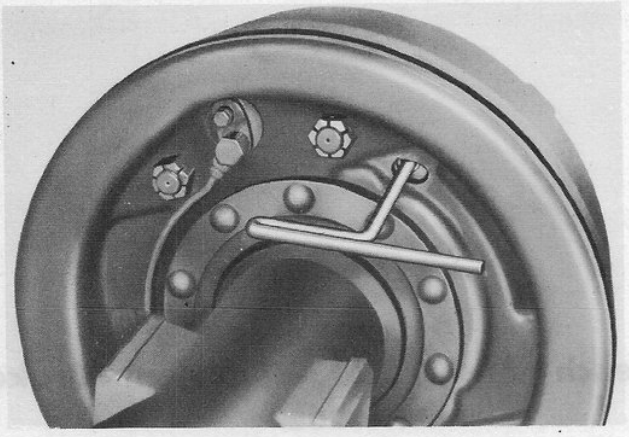
Wrench & Tube Assembly • Bleeder • Brake Cylinder
No. 2061

A "must" item when servicing brakes on the 1949 cars. Spring lock holds wrench firmly against valve to prevent leakage of fluid around wrench, and the plastic tube permits observation of fluid for air bubbles when draining.



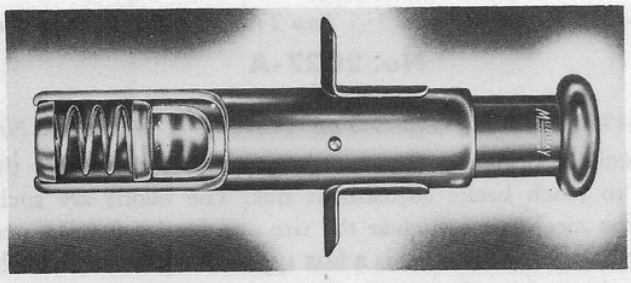
Remover & Replacer • Return Spring • Brake
No. 2086-L

A forged steel tool to effectively and quickly return or replace these normally hard to get at springs. One end is socket shaped with a protruding lip, which fits over the retaining pin, at the same time engaging the lip with the spring loop. A simple twist removes the loop from the pin. The other end is spoon shaped to center on the pin head, after inserting thru the loop. A slight raising of this end will allow the spring to slide off onto the retaining pin. Hard bright nickel plated to resist corrosion.



Wrench • Worm Adjustment • Brake
No. 2233

Wrench is of proper size to accurately fit the inside of the bronze adjusting worm. It permits adjustments to be made quickly without damage to worm gear.



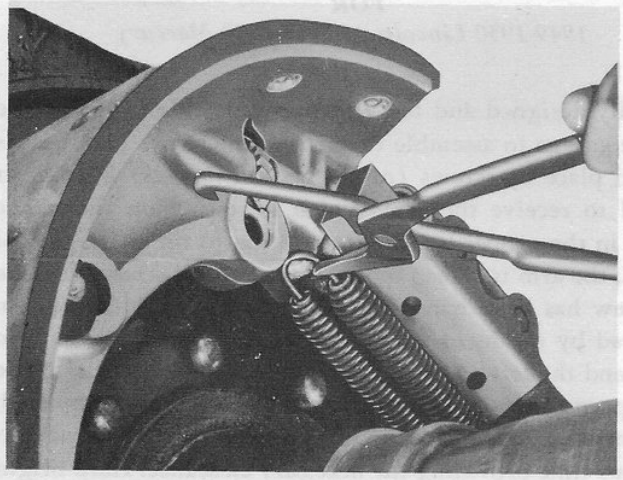
Remover & Replacer • Brake Shoe Hold Down
M-401-MT-1

A quick and easy method of assembling, installing and removing Brake Shoe Hold Downs. Eliminates skinned knuckles and springs flying around the shop.

A real Time saver on brake jobs as it simplifies the job as may be seen by the following instructions.

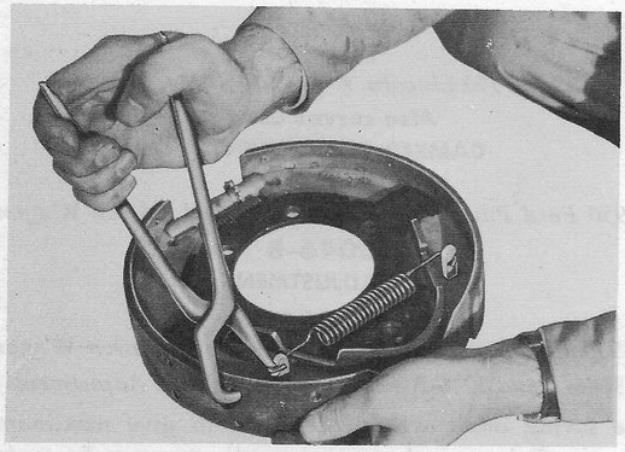
TO REMOVE: Place end of tool under locking cup which is held against the brake shoe by the spring. Compress tool and turn slightly to right or left. Remove tool and assembly. Job is completed.

TO REPLACE: Place required pin in hole of backing plate and thru hole in brake shoe. Load tool with cups and spring (see illustration) and compress. Line up hole in cups with pin by turning tool slightly to right or left. Release and assembly is complete.



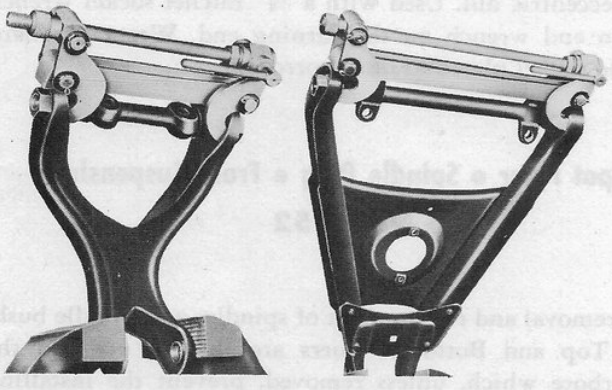
Spreader • Return Spring • Brake
No. 2296

A time consuming job made easy by this tool. The long handles give adequate leverage to stretch the dual coil spring over the drum hook. Once hooked, a twist of the pointed hook jaw in a counter-clockwise direction quickly disengages the specially notched spring jaw.



Spreader • Return Spring • Brake
No. 2296-A

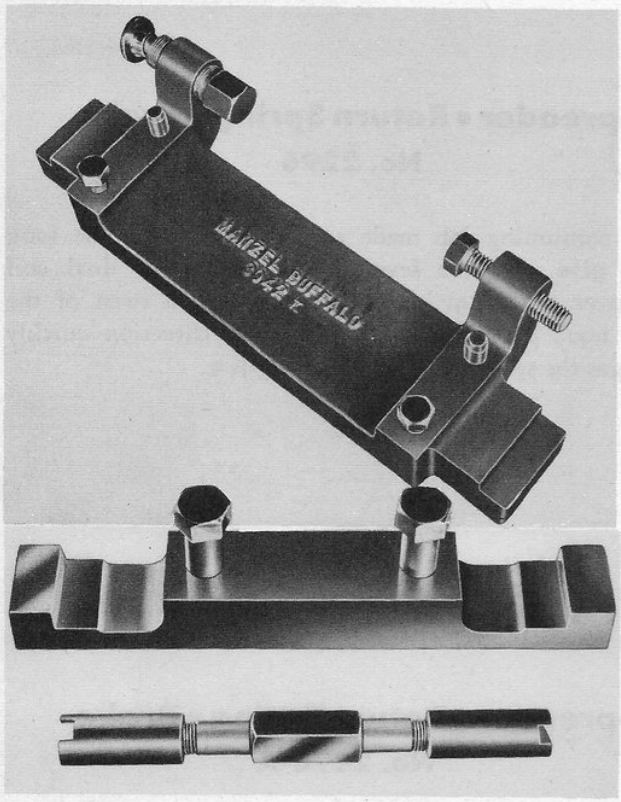
With this spreader, brake springs are removed easier, quicker and without danger of nicking the wire. One handle is notched for fast, easy replacement of spring. Two tools in one, inexpensive and indispensable.



Expanding Tools • Upper & Lower Arms • Front Suspension

No. 3044-K • (UPPER) **No. 3042-K** • (LOWER)

These special tools have been developed to spread the tynes (forked portion) of these arms when inserting the self-threading pivot shaft bushing. The spreading of these arms during assembly of the bushings prevents the tyne or fork from moving in ahead of the bushing when the bushing is screwed into the pivot shaft and assures that a clean thread will be cut in the arm to provide a solid seat for the bushing. They are designed to spread the suspension arms the proper amount and thereby prevent the strain resulting in threading the bushings into the arm.



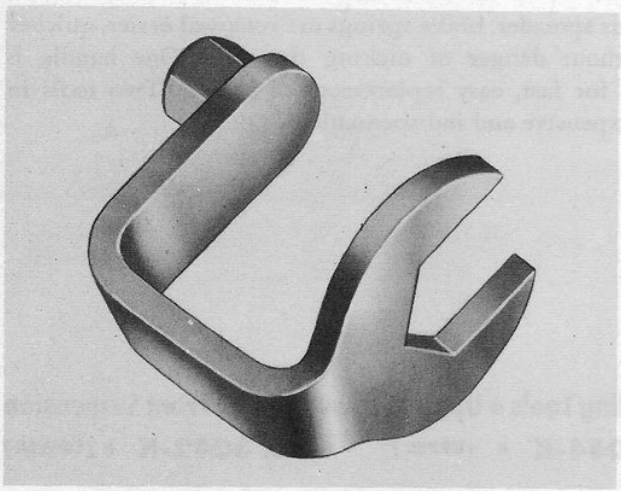
Expanding Tools • Upper & Lower Arms • Front Suspension

No. 3044-L • (UPPER) **No. 3042-L** • (LOWER)

FOR

1949-1950 Lincoln • 1949-1950 Mercury

Specially designed and factory approved tools to enable the service garage to assemble the arm to the shaft. The shaft is held in place by screws (or screws and dowels) keeping it central to receive the arm, which is resting on the gauge points in the proper location in relation to the shaft. In tool 3042-L, the arm is spread by the swivel-ended screw after the set screw has been hand tightened. In tool 3044-L the arm is spread by means of the slotted ends, fitting into the arm itself, and the left and right hand threaded center shaft. The self-tapping screws are then run in. The assembly completed, the tension is released allowing the arm to spring back, at the same time providing the necessary clearance. Hard bright nickel plated to resist corrosion.



Wrench • Camber & Caster Adjustment • Front Suspension

No. 3046-A

FOR

1949-1950 Lincoln • 1949-1950 Mercury

Also serves as

CAMBER ADJUSTMENT

FOR

1949-1950 Ford Pass. Car • 1949-1950 Ford Station Wagon

No. 3046-B

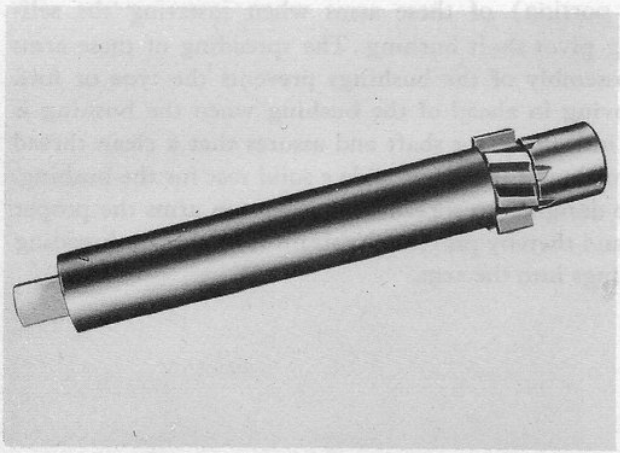
CASTER ADJUSTMENT

FOR

1949-1950 Ford Pass. Car • 1949-1950 Ford Station Wagon

(Both 3046-A and 3046-B Tools needed for Ford Adjustments)

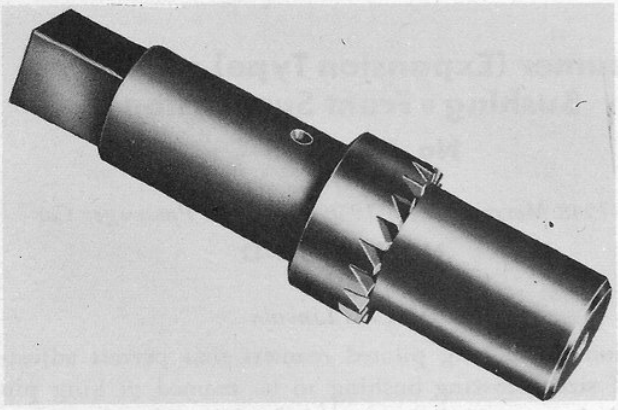
A time saving offset wrench designed to give maximum adjustment efficiency and permitting adjustment to be made without removing the wheel. Wrench is made from heat treated alloy steel with hex opening designed to accurately fit the eccentric nut. Used with a ¾" ratchet socket wrench or open end wrench on the turning end. Wrench is hard polished nickel plated to resist corrosion.



Spot Facer • Spindle Plug • Front Suspension

No. 3052

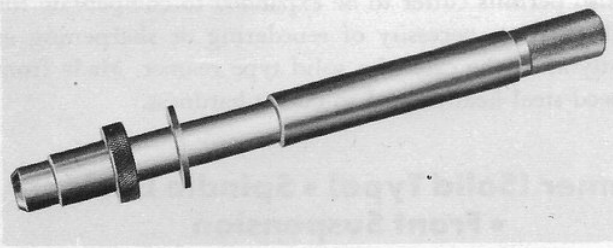
Upon removal and replacement of spindles and spindle bushings (Top and Bottom), burrs are thrown up into the counterbore which, unless removed, prevent the installing of a "grease tight" plug. This well designed, piloted spotfacer rapidly "faces off" the counterbore for assurance of a factory tight plug. This spot facer is made from high speed steel heat-treated to cutter hardness for long cutting life.



Spotface Tool • Spindle Support • Front Suspension

No. 3052-L

To prepare the "Spindle" Support Plug Seat to receive new plugs, this tool is a "must." Burrs thrown by spindle bushings must be taken out before installing a new plug, which must be "grease tight." A well designed piloted spotfacer, properly heat treated for long cutter life.



Remover & Replacer • Spring Bushing • Front Suspension

No. 3110

FOR

1938-1948 Mercury • 1938-1948 Ford Passenger Car

No. 3110-A

FOR

1939-1950 Lincoln • 1949-1950 Mercury

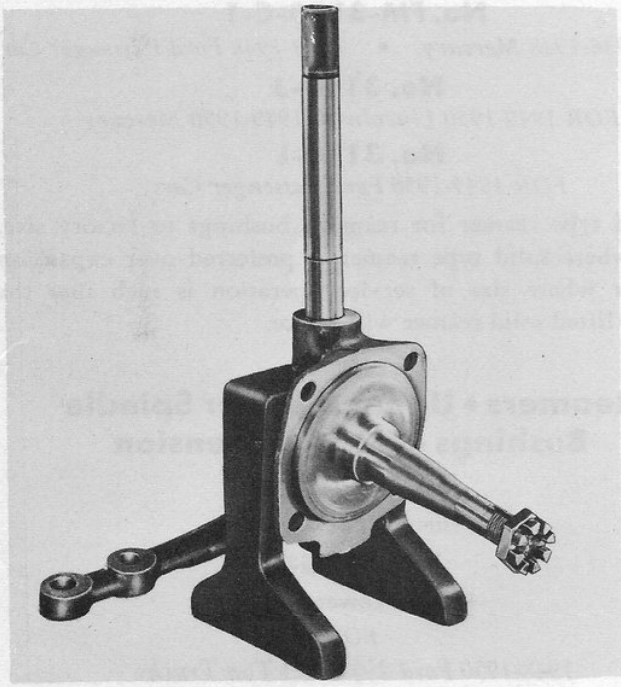
No. 3110-E

FOR

1948-1950 Ford 2½ and 3 Ton Trucks

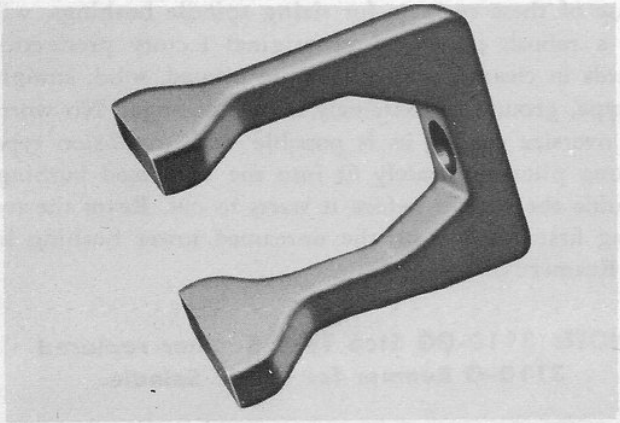
No. 3110-K

FOR 1949-1950 Ford Passenger Cars



For fast removal and replacement of spindle bushings. A two piece tool consisting of: hardened and ground driver with knurled hand grip and reduced diameter knocker head; Piloting insert with sized I.D. and O.D. and knurled finger grip. In use as a remover, the driver is inserted into the bushing and struck sharply with a *soft faced hammer.* The outer diameter of the driving face will permit tool to enter the spindle bore as the bushing moves out.

To use as a replacer, put bronze bushing on the driver running it up to a position against the driving face. Put Pilot Insert fully into spindle bore (from inside, see photo) — Put driver pilot into insert and hit knocker head several sharp blows with a *soft hammer.* The bushing, as it goes into the bore, will push the insert out ahead of it.



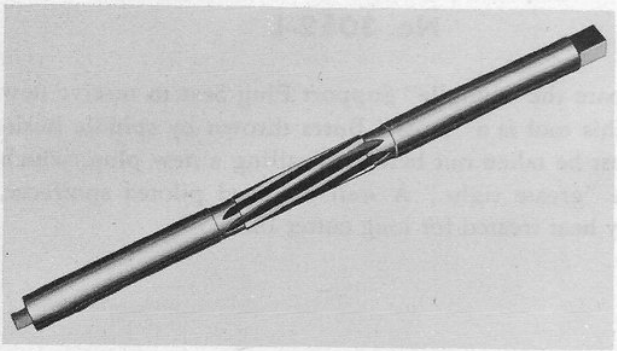
Press • Spindle Bushing • Front Suspension

No. FLM-3110-B

Used with Nos. 3110 and 3110-A Tools

This heavy stand is used to support the spindle while using tools No. 3110 and 3110-A to remove and replace spindle bushings. It permits the use of an arbor press (per factory recommendation) instead of a hammer for replacing the bushings. Press is made of a high tensile cast material accurately machined and drilled to hold spindle assembly flat and parallel. Simplifies and speeds up bushing removal and replacement. Keep the job off the bench by using this unit.

(No. 3115-B is superseded by 3110-CC. See page 15.)



Reamer (Expansion Type) • Spindle Bushing • Front Suspension

No. FM-3110-C

FOR

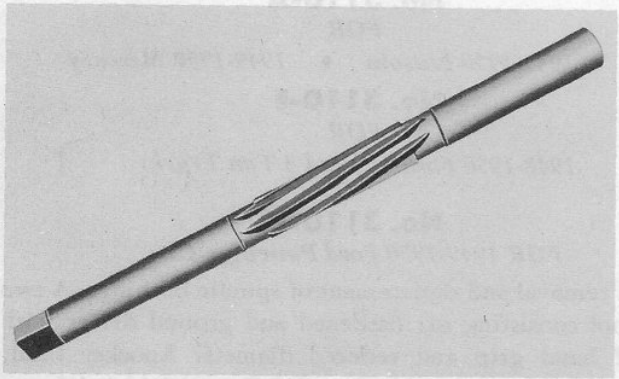
1938-1948 Mercury • 1938-1948 Ford Passenger Car

No. L-3110-D

FOR

1939-1948 Lincoln

Expansion Type, long piloted reamers that permit adjustment of size, allowing bushing to be reamed to king pin size and thus permitting reuse of the king pin. Expansion device also permits cutter to be expanded to compensate for wear, eliminating necessity of reordering or sharpening as frequently as in the case of a solid type reamer. Made from high speed steel heat-treated to cutter hardness.



Reamer (Solid Type) • Spindle Bushing • Front Suspension

No. FM-3110-C-1

FOR 1938-1948 Mercury • 1938-1948 Ford Passenger Car

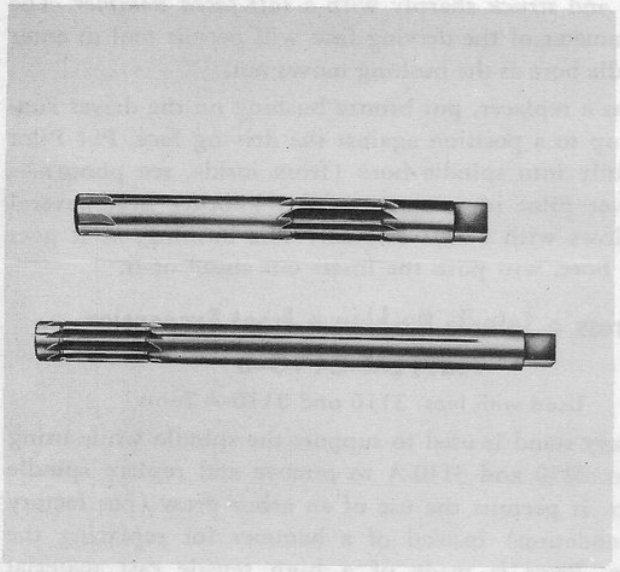
No. 3110-J

FOR 1949-1950 Lincoln • 1949-1950 Mercury

No. 3110-L

FOR 1949-1950 Ford Passenger Cars

A solid type reamer for reaming bushings to factory size. Used where solid type reamer is preferred over expansion type or where size of service operation is such that the shorter lifted solid reamer will suffice.



Reamers • Upper & Lower Spindle Bushings • Front Suspension

No. 3110-GG

Reamer-Upper Spindle

No. 3110-H

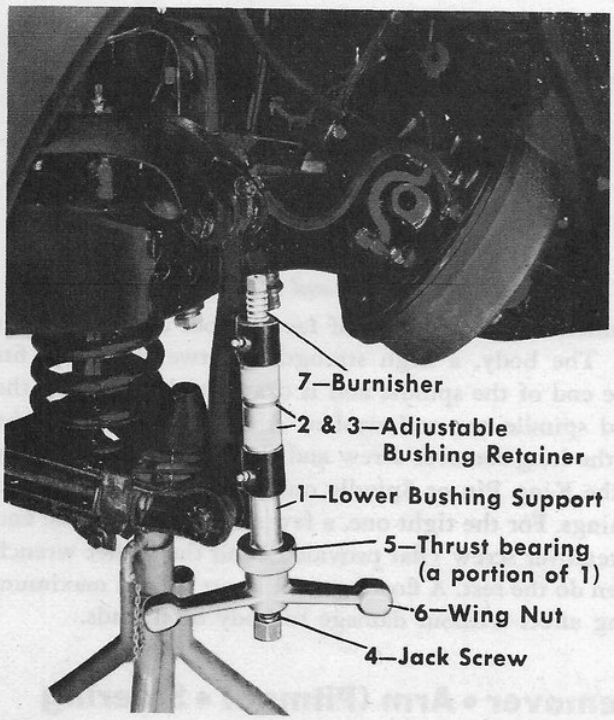
Reamer-Lower Spindle

FOR

1948-1950 Ford 2½ and 3 Ton Trucks

The use of these reamers for sizing spindle bushings, will assure a rebush job equal to original factory production standards in clearances. Reamers are piloted, solid, straight flute type, ground to extremely close tolerances. No worry about oversize cutting as is possible with expansion type. The long pilots accurately fit into the unreamed bushings and guide the reamer before it starts to cut. Ream the top bushing first piloting on the unreamed lower bushing by using Reamer No. 3110-GG.

NOTE: 3110-GG Step Type Reamer replaced 3110-G Reamer for Upper Spindle.



Refer to Ford Service Letter

Burnisher • Spindle Bushings
No. 3110-AA

The split steel backed bronze spindle bushings are often out of round after stocking and handling. Unless fully expanded in the support bores prior to reaming, bushings will eventually seat themselves under normal road shock conditions giving a loose fit between bushing and spindle pin far in advance of normal wear.

Taking but a few minutes time, this new "factory approved" sizing burnisher assures maximum bushing life equalling factory production methods. Its use stops come backs on front end re-bush jobs.

Instructions for use:

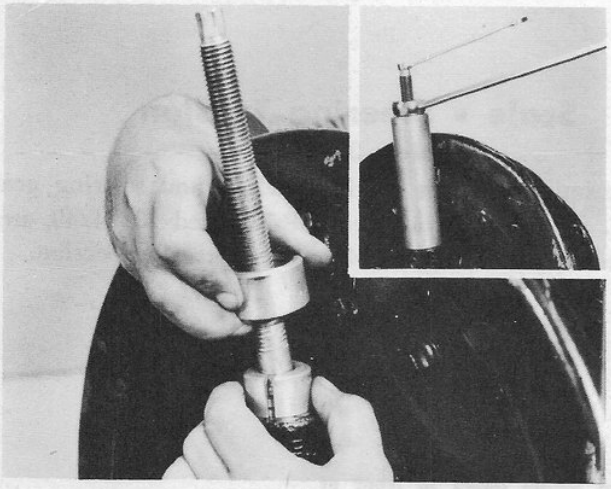
(A.) Adjustable Bushing Retainer (2 and 3) is installed between upper and lower Spindle Bushing Support Arms and adjusted by hand.

(B.) Jack Screw (4) with Wing Nut (6) in place at the head end is installed thru Thrust Bearing (5) and Lower Bushing Support (1).

(C.) Burnisher (7) is partially inserted into Top Bushing. Jack Screw (4) and assembled parts are inserted upward thru Spindle Support Arms engaging internal thread of Burnisher (7).

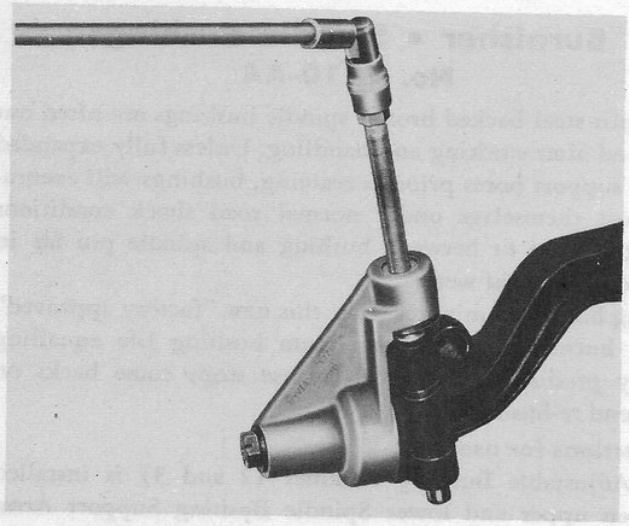
(D.) A few turns on the Jack Screw (4) securely fastens Jack Screw to Burnisher (7).

(E.) Wing Nut (6) is turned clockwise by hand pulling Burnisher down thru upper and lower bushings and fully expanding the bushings into a firm engagement with Spindle Support Bushing bores. Bushings are then ready for the reaming operation.



Remover • Spindle Bolt
No. 3110-CC

This tool is the newest development for removing spindle bolts from the F7 and F8 Ford Truck front axles. Its screw-action encircles the spindle bolt at the snap ring groove and pulls it up and out of the spindle. It is not necessary to remove the backing plate, which is riveted in place, and considerable time and labor is thereby saved through the use of this tool.



Remover • King Pin • Front Suspension

No. 3115

FOR

1939-1948 Mercury • 1939-1948 Ford Passenger Cars

No. 3115-A

FOR

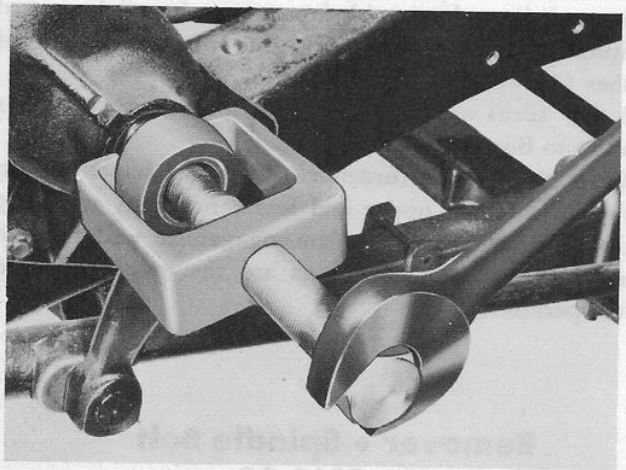
1939-1948 Lincoln

No. 3115-B

FOR

1948-1950 Ford 2½ and 3 Ton Trucks

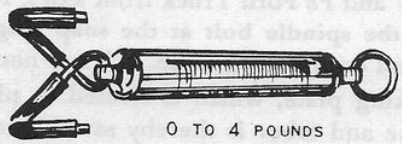
An essential tool in the eyes of factory tool and equipment section. The body, a high strength lightweight alloy, fits over the end of the spindle and is drawn tight by using the standard spindle nut and washer. A socket wrench on the end of the long remover screw and the fine thread normally walks the King Pin or Spindle out without damage to pin or bushings. For the tight one, a few sharp blows on the end of the remover screw (flat provided) and the socket wrench will then do the rest. A floating steel insert assures maximum shocking affect without damage to body or threads.



Remover • Arm (Pitman) • Steering

No. 3130

One job where it takes a lot of "pull" sometimes even a wallop or two. This alloy steel casting is heat-treated to 200,000 pounds per square inch tensile strength, and will readily take care of all the "pull" you can give it. The screw has a fine thread to allow greater force to be exerted without much effort and hex head has raised hammer flat.



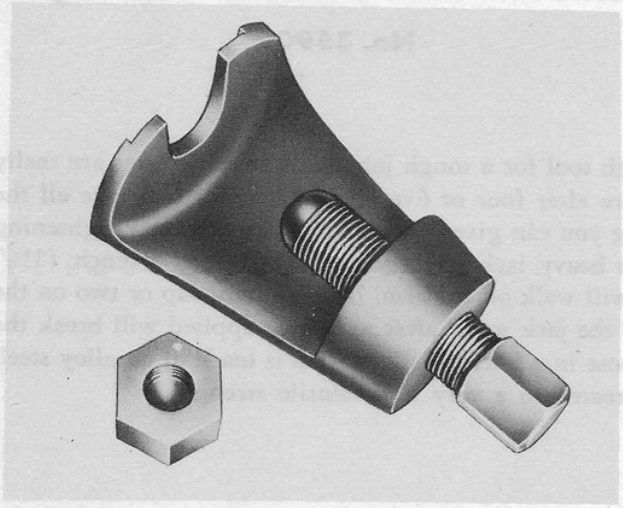
0 TO 4 POUNDS
IN OUNCE READINGS

Scale • Steering Tension

No. 3600-F

For determining worm bearing preload and steering gear preload. See Ford Service Letter P-72 dated 10/24/49, and Lincoln-Mercury Overhaul Manual — Steering Section.

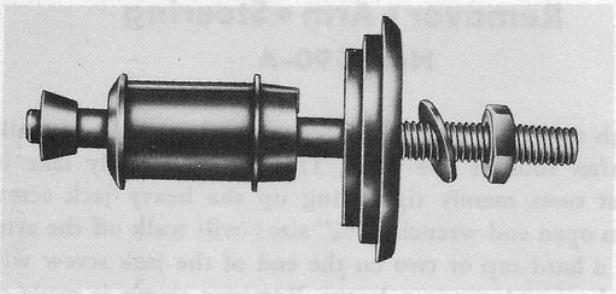
NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.



Remover • Distributor Drive Gear • Engine

No. 3290-B

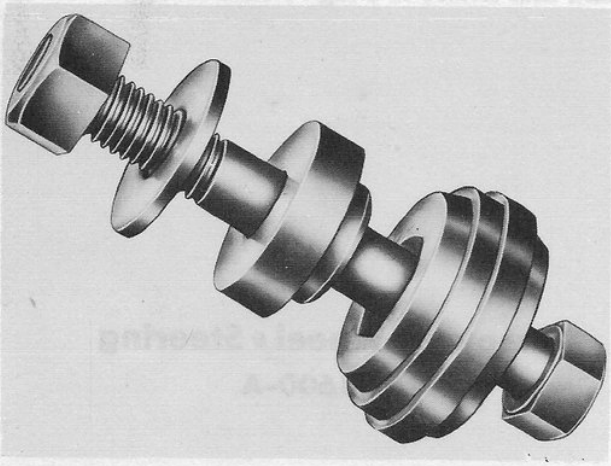
This heat treated tool easily pulls the tie rod ends quickly. A specially designed tool body protects the jack screw thread during the pulling operation and keeps the screw in perfect alignment, performing its operations in a quick and effective manner.



Remover • Worm Bearing Cup • Steering

No. 3552

This tool was specially designed to remove the small and hard-to-get-at cup in the steering gear worm housing. A split expanding type of tool that quickly and efficiently removes these cups without fear of enlarging the counterbore. Hard bright nickel plated to resist corrosion.



Replacer • Worm Bearing Cup • Steering

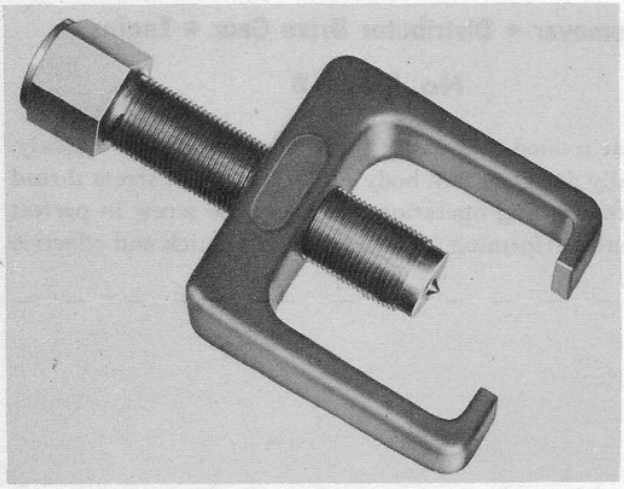
No. 3552-A

A universal tool to replace the small hard-to-get-at steering gear worm bearing cups. The sized tapered end portion may be used to replace cups as stamped by reversing this piece. A simple, effective means to quickly do this important job.

Remover & Replacer • Worm Sector Bushing • Steering

No. 3576L

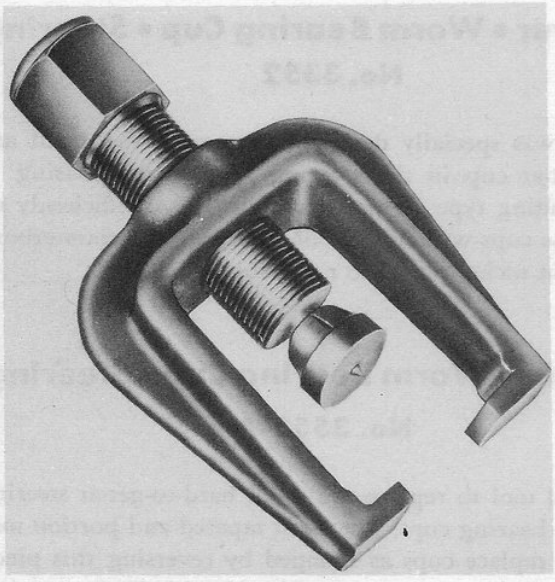
A specially designed factory approved tool to quickly remove and replace sector bushings without damage to adjacent parts. Made of hardened steel and precision ground to close tolerances. A real time saver.



Remover • Arm (Pitman) • Steering

No. 3590

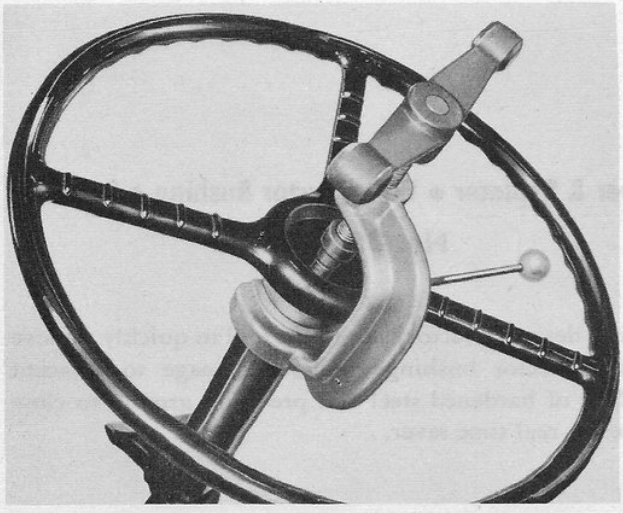
A tough tool for a tough job. Some steering arms are really on there after four or five years. This tool will take all the beating you can give it but in most cases merely tightening up the heavy jack screw with an open end wrench (1¼" size) will walk off the arm. If not, a hard rap or two on the end of the jack screw after tension is applied will break the arm loose in a hurry. Puller clamp is made of an alloy steel, heat treated to a very high tensile strength.



Remover • Arm • Steering

No. 3590-A

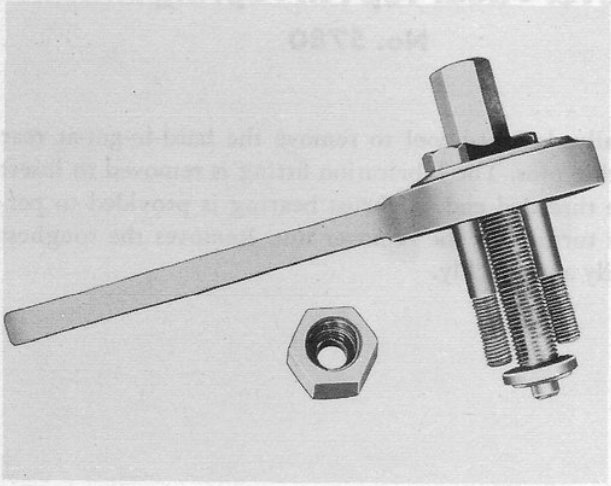
A tough tool for a tough job. Some steering arms are really tight after four or five years. This tool can really take it. In most cases merely tightening up the heavy jack screw with an open end wrench (1¼" size) will walk off the arm. If not, a hard rap or two on the end of the jack screw will break the arm loose in a hurry. Remover clamp is made of alloy steel, heat treated to a high tensile strength.



Remover • Wheel • Steering

No. 3600-A

Removes steering wheel quickly and effectively without damage to thin walled threaded end of steering shaft. Body is constructed of a high strength, lightweight alloy. A leather pad on the body pulling yoke protects the steering wheel from paint chipping or damage. A floating pilot on the end of the jack screw keeps the end of the steering shaft from collapsing when removing force is exerted.



Remover • Wheel • Steering

No. 3600-D

FOR

1939-1950 Lincoln • 1939-1950 Ford Passenger Cars

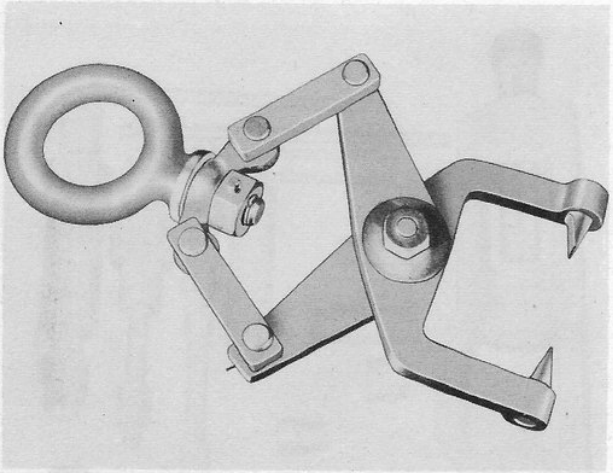
1939-1950 Mercury

No. 3600-AA

FOR 1950 Ford 1½ to 3 Ton Trucks

1950 Ford Station Wagon

A screw jack type remover that speedily takes off steering wheels without damaging the wheel or the hollow end of the steering shaft. With the new type plastic wheels it is very important to apply the removing force directly on the metal insert otherwise the wheel can be damaged beyond useage.



Spreader • Leaf • Rear Spring

No. 5560

This tool is used in connection with a long pry bar or rod to separate the spring leaves and permit removal and replacement of the spring leaf separators or spacers. Tool is made of high tensile manganese bronze alloy arms, hardened steel parting points and forged steel puller ring. Hard bright nickel plated overall to resist corrosion.

Spreader • Leaf • Rear Spring

No. 5560-A

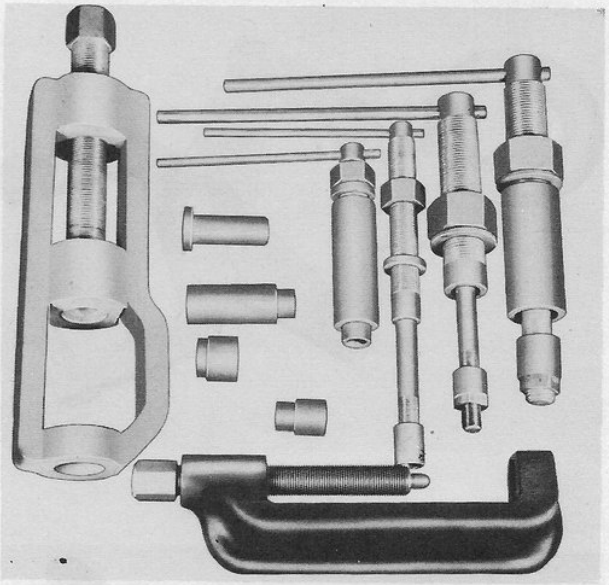
A sturdily built tool to spread the spring leaves for inserts. One turn of the hex end will drive the movable wedge home, quickly opening the leaves for fast insert replacement. The main casting is high tensile manganese bronze. The wedges and quick-acting screw are hardened steel for long life.

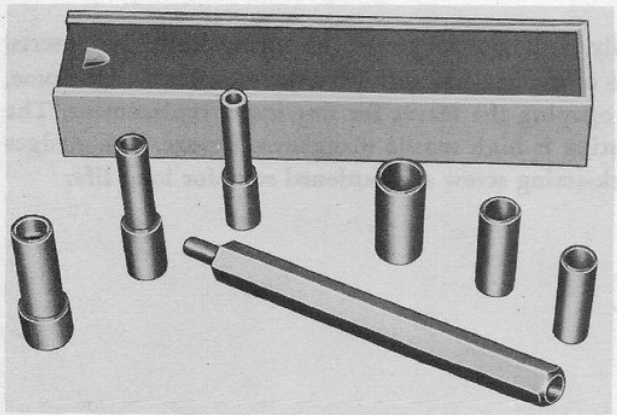
Remover • Rear Top Pin • Spring Shackle
No. 5780

A specially designed tool to remove the hard-to-get-at rear top shackle pins. The lubrication fitting is removed to insert the pipe threaded end. A thrust bearing is provided to permit easy turning of the remover nut. Removes the toughest pins easily and quickly.

Remover & Replacer Spring Shackle • Front & Rear
No. FLM-5464

A screw-type set consisting of four shackle sleeve and stud removers and two replacers with necessary varying diameter puller sleeves and piloting bushings to handle all the above listed cars on both front and rear springs. All parts are sturdily made of a high tensile steel or similar high strength material and cadmium plated to resist corrosion. Factory service does not recommend the application of heat to springs to remove sleeves. Don't take chances on spring failure when use of the above shackle set will assure efficient removal and replacement of shackle bolt assemblies.

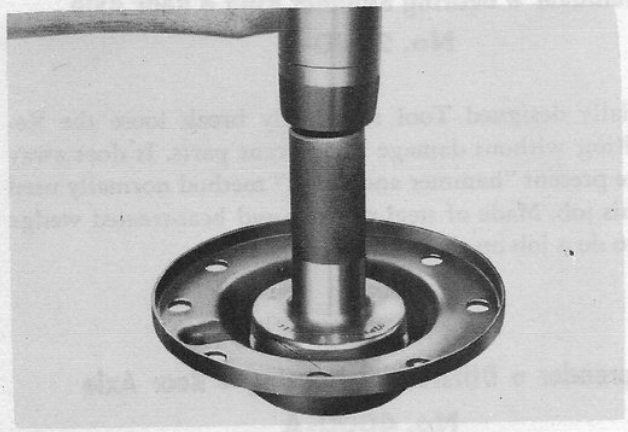




ALTERNATE METHOD
No. FLM-5464-A

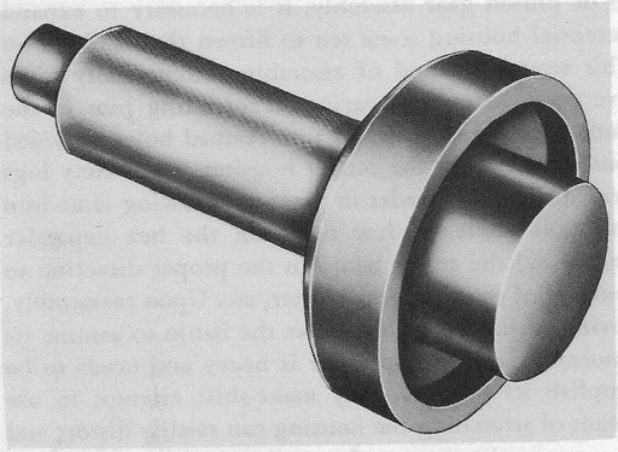
A drive-type set held to close tolerances, permitting the sleeve to be used as a gauge to select shackles before attempting installation. The sleeve also prevents distortion by swelling of the shackle when it is being driven into the perch and locates the shackle in the correct position precluding the possibility of driving it in too far, thus causing it to bind on the hangers. All parts except the sleeve are made of SAE 4142 steel and heat treated to the optimum hardness to produce the hardest and toughest steel for this purpose. The driving handle is made sufficiently long to get the driving end clear of all parts of the car.

NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.



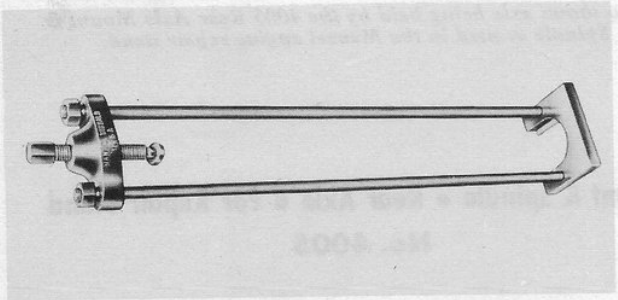
Replacer • Pinion Shaft Oil Seal • Rear Axle
No. 1175-D

Pilot and working face designed to speedily insert oil seal without damage. Cored inside for lightness and balance — hard bright nickel plated for corrosion resistance. An "essential" tool per factory recommendation. This tool is also used as the driving head for tool No. 1175-E, found on page 3.



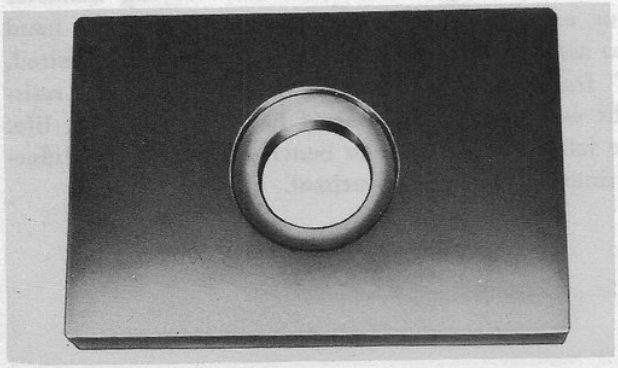
Replacer • Shaft Oil Seal • Rear Axle
No. 1177

This tool pilots on the inside diameter of the oil seal, centering it against the replacing face. The use of this tool prevents damage to the oil seal, from cocking or bending the thin sheet metal casing, which occurs when makeshift methods are used. A light soft headed hammer (Manzel Tool M-170-H) should be used to prevent seal collapse due to excessive exertion force.



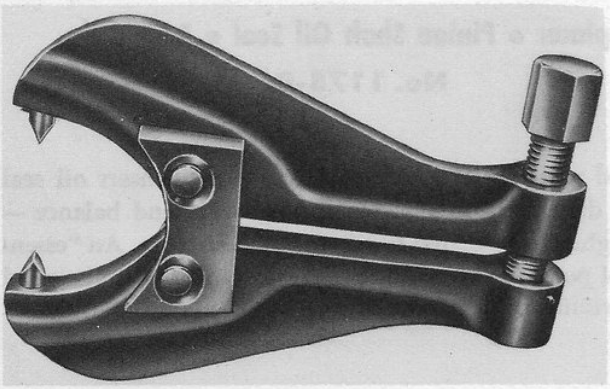
Remover • Main Bearing • Rear Axle
No. 1225-A

A specially designed factory approved tool to quickly remove the axle bearing without damage to itself or adjacent parts. The horseshoe shaped plate fits under the bearing and the swivel ended puller screw presses against the end of the axle, providing a straight-thru pull. Hard bright nickel plated to resist corrosion.



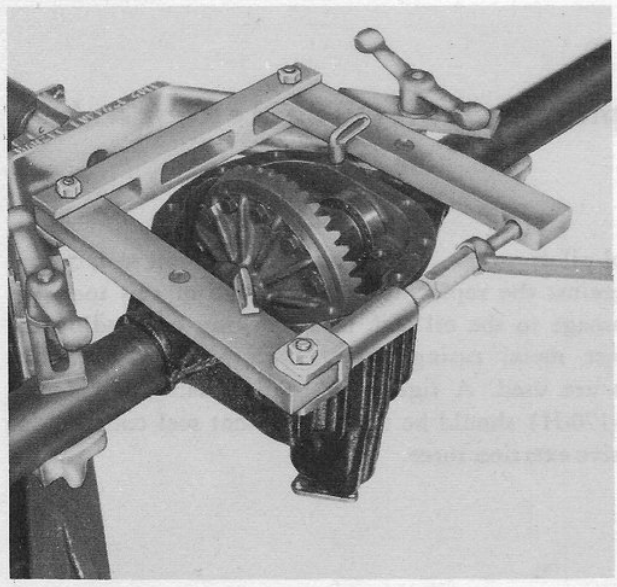
Replacer • Shaft Bearing • Rear Axle
No. 1225-B

A single plate used on an arbor press to replace the rear axle bearing. A clearance hole in the center assures perfect alignment of bearing and axle. Made of hardened steel, hard bright nickel plated to resist corrosion.



Remover • Bearing Retainer Ring • Rear Axle
No. 2240-A

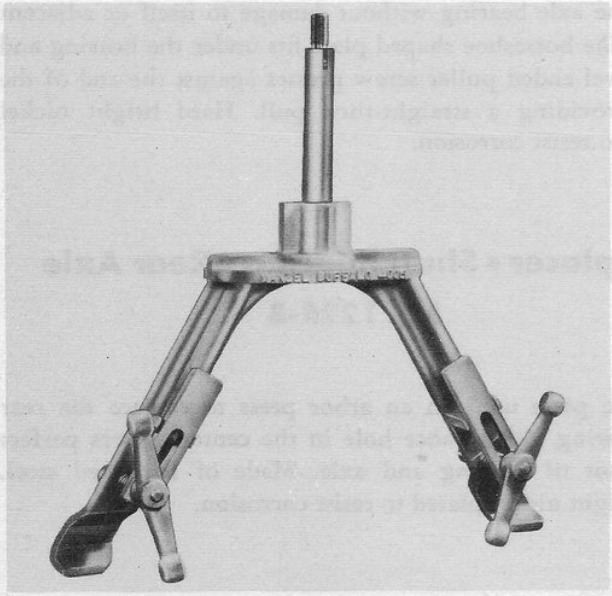
A specially designed Tool to quickly break loose the Retainer Ring without damage to adjacent parts. It does away with the present "hammer and chisel" method normally used to do this job. Made of steel castings and heat-treated wedge points to do a job on these heavy rings.



Spreader • Differential Housing • Rear Axle
No. 4000-A

In order to remove ring gear cluster, end bearings, pinion bearings or pinion gear assembly, it is necessary to expand the differential housing some ten to fifteen thousands of an inch. This stretch method of assembly automatically gives a positive pre-load to the bearings. Protruding pins in the side members of the spreader fit into reamed holes provided in the outboard ends of the carrier housing. Two safety lugs are provided to hold spreader in place by screwing same into the cover bolt circle. A few turns on the hex expander screw "expands" the entire banjo in the proper direction to allow removal of the ring gear cluster, etc. Upon reassembly, the relieving of the "stretch" allows the banjo to assume its former normal size. This spreader is heavy and needs to be to accomplish its purpose. Any make-shift attempt to use other means of stretching the housing can readily distort and damage same to the extent of not permitting its use on a "good" repair job.

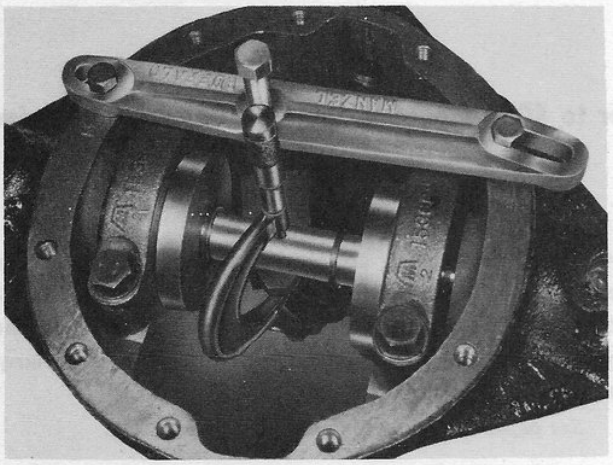
Photo shows axle being held by the 4005 Rear Axle Mount & Spindle as used in the Manzel engine repair stand.



Mount & Spindle • Rear Axle • For Repair Stand
No. 4005

This rear axle holder assures fast and clean overhauls when used in conjunction with a Manzel repair stand. The clamps are universal in design to accommodate varying diameter torque or axle tubes with forged steel wing type hand screws to assure positive clamping in any position desired. The "Y" frame is made of a high strength, corrosion resistant light weight alloy for ease of handling and long life. Take the job off of the floor or bench and watch the difference in time on your next overhaul.

See page 48 for complete repair stands.



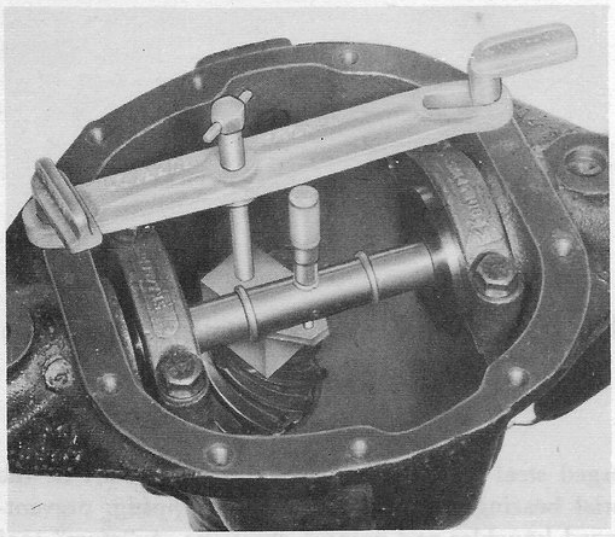
Gauge • Pinion Depth • Rear Axle
No. 4020-A

This gauge is used to establish the proper amount of shimming required behind the drive pinion shaft assembly to maintain proper gear teeth meshing. The precision ground end-discs simulate the end axle bearings and maintain a precise relation from the underface of gauge block to top of shaft.

(See Ford Service Bulletin for tolerance requirements)

For use with above:

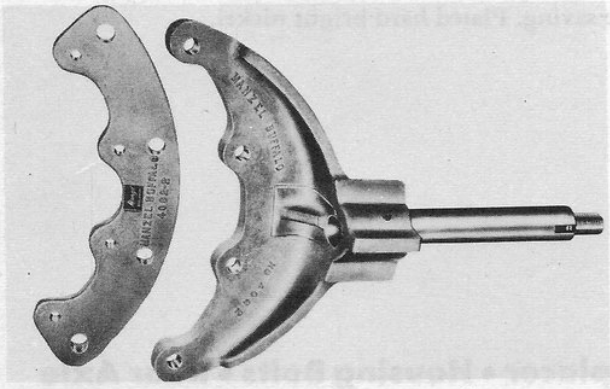
No. M-140-436-2C — OUTSIDE MICROMETER WITH CASE
L. S. Starrett 1" to 2" with Friction Thimble and Lock Nut

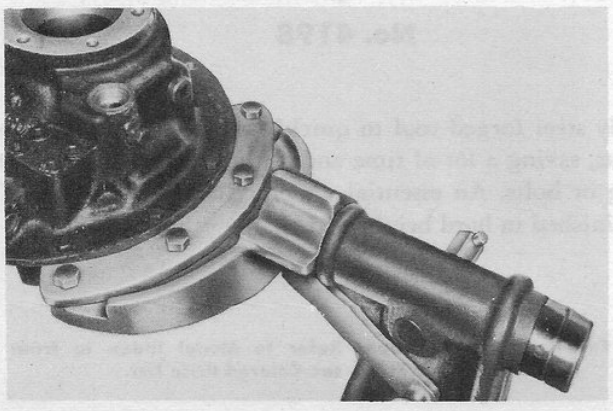


Gauge • Pinion Depth • Rear Axle
No. 4020-B

This gauge, very similar to 4020-A in application, has a friction clutch type depth micrometer with lock, permanently mounted in the shaft. The end rings are stepped to two diameters to permit the gauge to be used for both Lincoln and Mercury Rear Axles which use different diameter bearings. It will be noted that the hold-down clamps furnished with 4000-A Spreader may be used to mount the cross-bar or regular cover bolts may be used as shown on photo of 4020-A. The gauge comes packed in an attractive box with factory established calibration chart mounted in the inside of the cover and outlining the various rear axle ratios involved.

(See Lincoln-Mercury Service Bulletin for tolerance requirements)





Mount & Spindle • Differential Carrier • For Repair Stand
No. 4032

This mount and spindle will fit "Manzel" as well as old style motor stands. The four holes for mounting match with the carrier bolt circle. An adapter is included to permit fitting the 2-Ton Truck Carrier to the same mount and spindle. Mounting heads are made of a high strength, light weight alloy that will not crack or break if accidentally dropped or struck by hammer. The use of this unit in connection with an engine repair stand pedestal (either fixed or portable) greatly facilitates assembly of the carrier.

(Adapter 4032-1 included in price of Mount & Spindle).

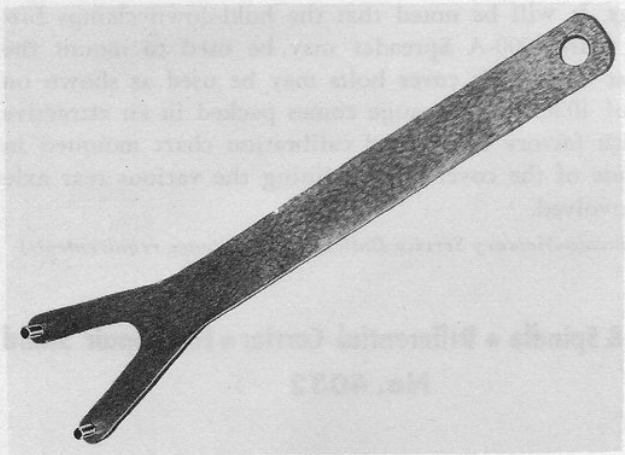
See page 48 for complete repair stands.

Adapter to 4032 Mount & Spindle • Differential Carrier

No. 4032-A

A lightweight, extra-strong adapter plate designed to fit the 4032 Repair Stand Mount & Spindle for mounting the differential carrier. This allows full access to working areas at the proper height and position and will repay its cost many times throughout its years of use.

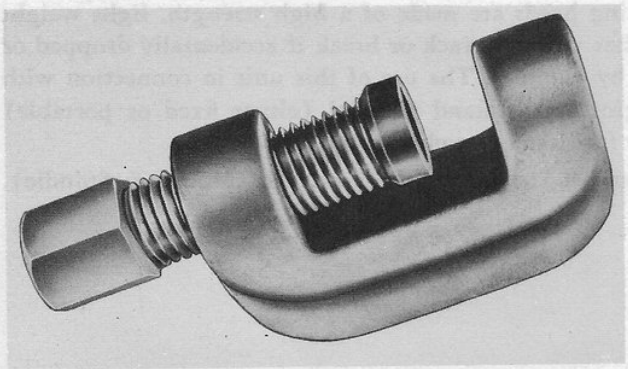
See pages 48 and 50 for complete repair stands.



Wrench • Differential Bearing Adjustment • Rear Axle

No. 4067-B

This forged steel "spanner wrench" type tool will fit the differential bearing nut without fear of slipping, preventing skinned knuckles and painful abrasions. A "must" tool for time saving. Plated hard bright nickel.

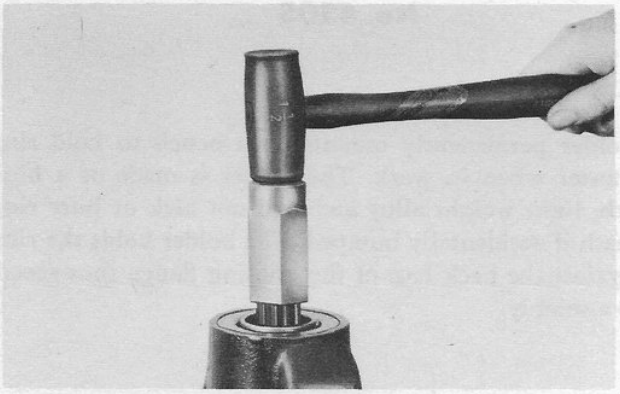


Replacer • Housing Bolts • Rear Axle

No. 4198

A sturdy steel forged tool to quickly replace the axle housing bolts, saving a lot of time and without damage to either housing or bolts. An essential tool for the "hard to get at" bolts. Finished in hard bright nickel.

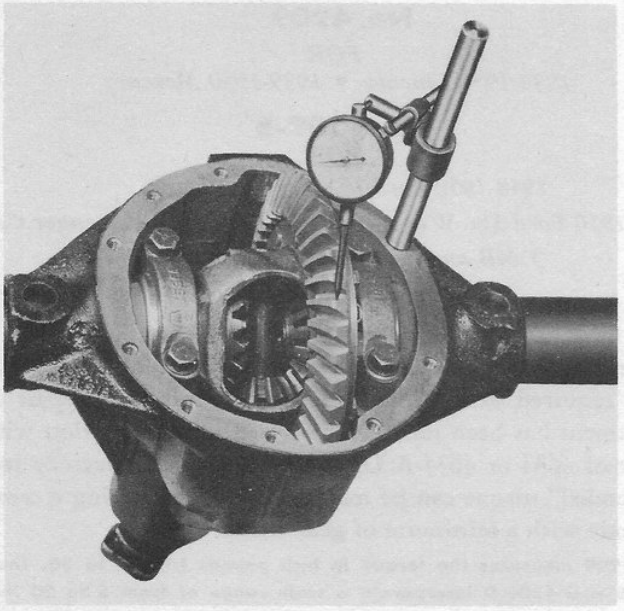
NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.



Drive Nut • Pinion Shaft • Rear Axle

No. 4201

The lower face is turned, counterbored and threaded to mate with the end of the pinion shaft. No damaged threads or battered spline when this nut is used with a persuader.

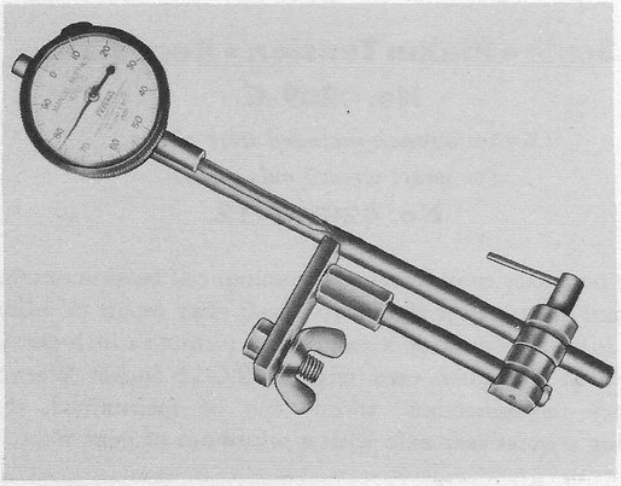


Gauge • Ring Gear Run-Out Backlash • Rear Axle

No. 4201-A

Complete with 2¼" Dia. Shockproof Jeweled-Bearing Indicator.

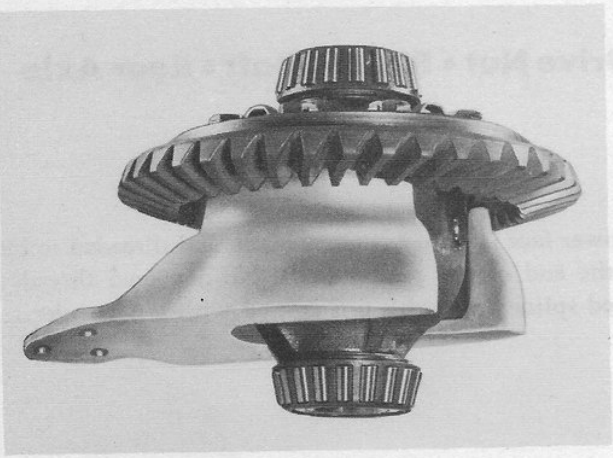
This gauge will show the presence of loose bearings or a sprung or eccentric ring gear case. The gauge is a precision dial type indicator covering a range of two hundred and fifty thousandths and provided with a direct reading scale. The gauge is unusually durable and extremely accurate. The arm and supporting column are precision-ground from ¾" stock so that complete stability may be achieved when the threaded column is screwed into the differential bolt circle. The complete unit is packed in a well built protective wooden box.



Indicator • Backlash (Drive Pinion) • Rear Axle

No. 4201-C

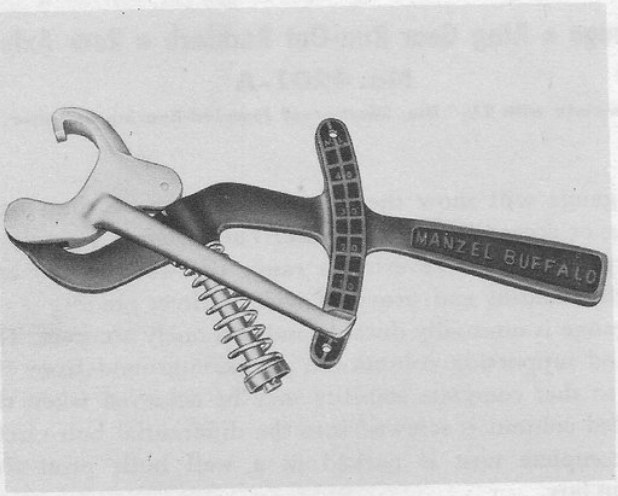
This tool presents the only way to accurately determine the amount of backlash or play in the drive pinion relation to the ring gear. It shows when drive pinion gear relation should be set or replaces as well as checking newly assembled jobs for proper "factory established" clearance. In use, the indicator is mounted on the shaft, which also carries an additional shaft and plate. The plate is attached to the housing by means of the screw and thumb nut provided. The complete unit is packed in a well built protective work box.



Holder • Differential Housing • Rear Axle

No. 4205

The holder permanently mounts on a bench to hold ring gear cluster when in work. The holder is made of a high strength, light weight alloy and will not nick or burr ring gear teeth if accidentally bumped. The holder holds the ring gear against the back face of the housing flange thus speeding up assembly.



Scale • Pinion Tension • Rear Axle

No. 4209

FOR

1939-1950 Lincoln • 1939-1950 Mercury

No. 4209-B

FOR

1948-1950 Ford ½-1½ Ton Trucks

1949-1950 Ford Sta. Wagon • 1939-1948 Ford Passenger Cars

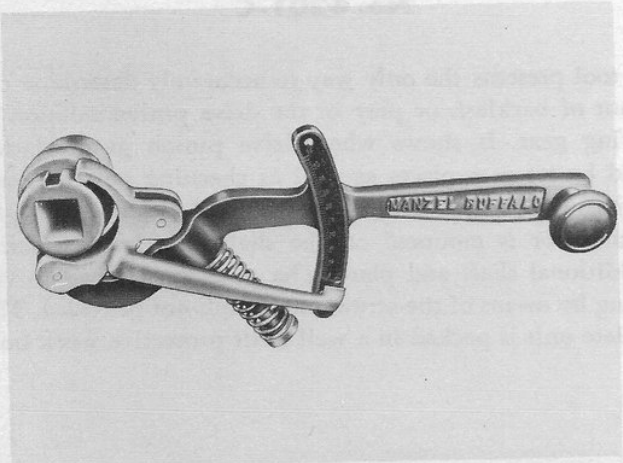
5 MB and 8 MB Ford Motor Coach

No. 4209-D

FOR 9N, 2N & 8N Ford Tractor

These necessary tools measure the amount of tension or effort required to turn over the pinion shaft after repair or adjustment has been made. When used in combination with a pair of 4634 or 4634-A Lock Nut Wrenches, "factory recommended" torque can be maintained, thus assuring a quiet rear axle with a minimum of gear wear.

Tool 4209 measures the torque in inch pounds from 0 to 30. Tools 4209-B and 4209-D incorporate a scale range of from 5 to 50 inch pounds and have a knob on the handle which facilitates taking moving readings. (On Lincoln, Mercury, Ford Station Wagon and Ford ½ Ton Truck these tools are used in conjunction with No. 4858-B Replacer. — See page number 46).



Scale • Pinion Tension • Rear Axle

No. 4209-C

(Socket wrench included with above.)

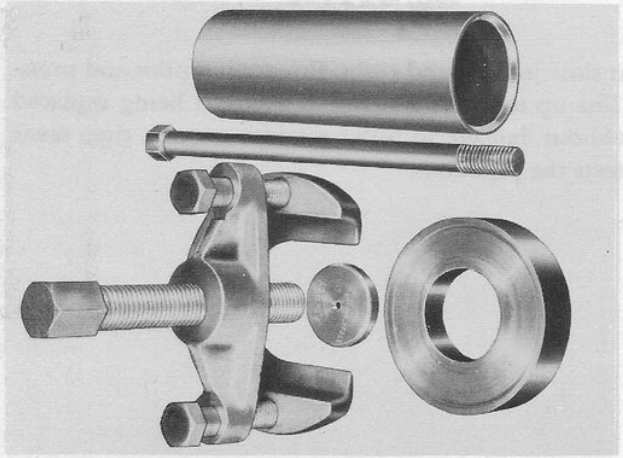
For socket wrench only order:

No. 4209-C-12

These necessary tools measure the amount of tension or effort required to turn over the pinion shaft after repair or adjustment is made. The scale measures the torque in inch pounds from 5 to 50. When used with 4209-C-12 Socket Wrench, "factory recommended" torque can be maintained, thus assuring a quiet rear axle with a minimum of gear wear.

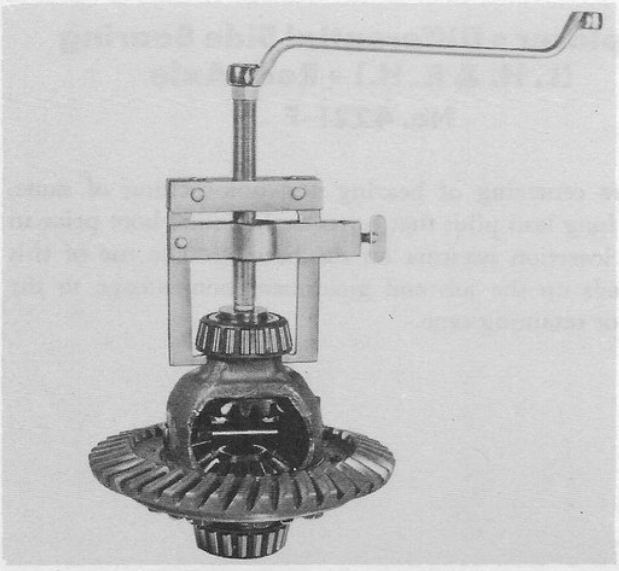
Windshield Sealer Gun
No. FLM-403

For those water leaks around the windshield frame, this small gun is unique for quick and positive sealing. Just screw a tube of Sealer into the gun and insert the blade of the gun under the rubber (as shown in photograph). Start squeezing the tube and when sealer material starts flowing, move the gun along slowly and this will deposit the sealer under the rubber. REMEMBER in stopping that leak you may save a customer.



Remover & Replacer • Differential Bearings • Rear Axle
No. 4221-AB

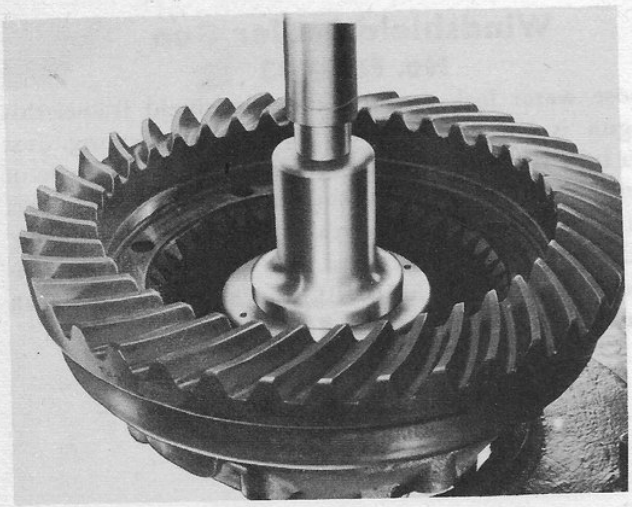
A dual purpose Tool that pays for itself as it serves both as a remover and replacer. The component parts are well made of the best materials for strength and durability. An arbor press type Tool to quickly do a job without damage to parts. Hard bright nickel plated to resist corrosion.



Remover • Differential Side Bearing Cone • Rear Axle
No. 4221-C

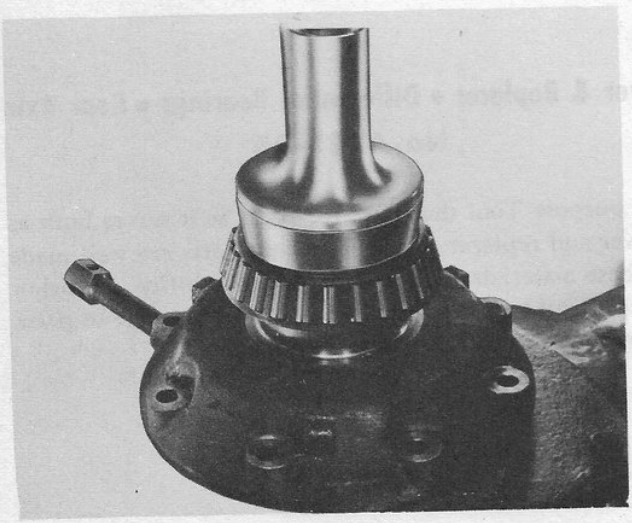
The hardened forged steel pulling legs fit into cored recesses and are held securely in place behind the bearing cone by the cross clamp. The pilot bushing furnished is inserted into the bore of the housing. By turning puller screw with ¾" hex socket wrench, bearings are quickly pulled without cocking or damaging the ground surfaces on inside or outside of ring gear housing.

Warning: Be sure jaws are inserted fully behind cup before exerting removal force.



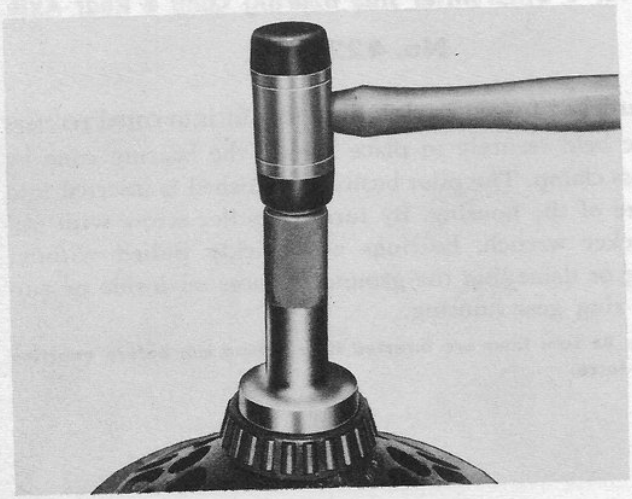
Remover • Differential Side Bearing (L. H.) • Rear Axle
No. 4221-D

This tool has hardened steel pins accurately located to pick up holes thru the differential gear case. A long pilot lead mating with the case bore provides accurate alignment of the tool. When used with arbor press, (factory recommendation) bearing cone is removed quickly and safely with no damage to the ground O.D. of the case.



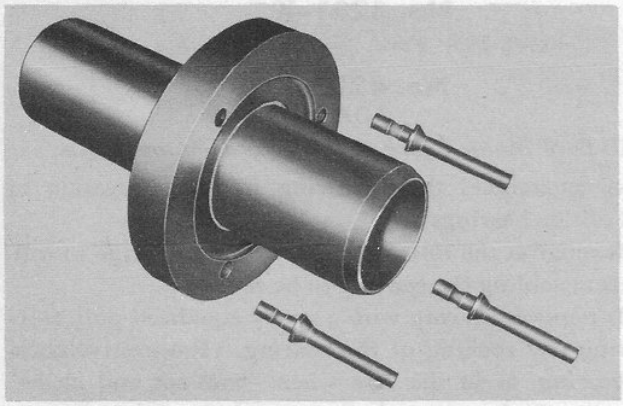
Replacer • Differential Side Bearing (L. H.) • Rear Axle
No. 4221-E

Does that slow job fast and right. Protruding pilot and pressing lips line up tool and bearing to assure it being replaced evenly without damage to roller retainer cage. A time saver that protects the product.



Replacer • Differential Side Bearing (L. H. & R. H.) • Rear Axle
No. 4221-F

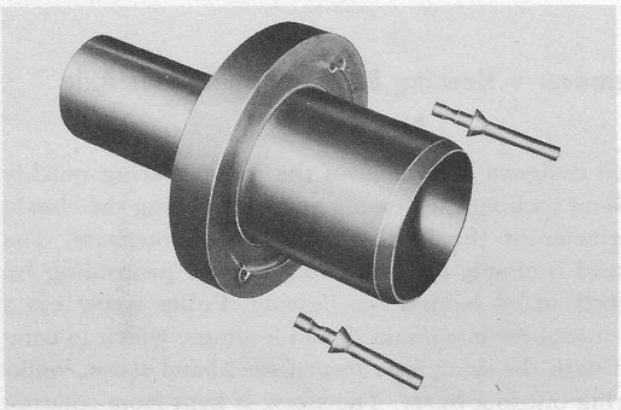
To assure centering of bearing and non-cocking of same, tool has long lead pilot that engages the inside bore prior to starting insertion pressure on the bearing. The use of this tool speeds up the job and guarantees non-damage to the bearing or retaining cage.



Remover & Replacer • Differential Side Bearing (R. H.) • Rear Axle

No. 4221-G

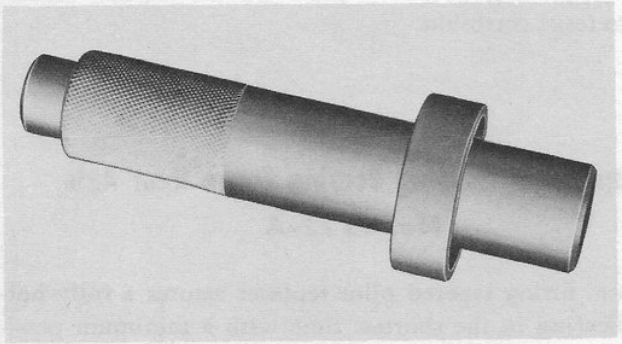
A dual-purpose tool that pays for itself in time saving. Serves as both remover and replacer by having removable pins (spring-ball retained) which serve as the bearing remover. The long lead pilot accurately centers the casting assuring even distribution of the removing force. Tool is cored hollow for lightness and handling with a sturdy steel ring bonded to the body for strength and durability. This tool is designed for use with an arbor press in conformity with factory recommendations as to the force necessary to remove and replace these bearings.



Remover & Replacer • Differential Side Bearing (L. H.) • Rear Axle

No. 4221-H

This tool is comparable in design and application to 4221-G, but has two push pins which mate with the two holes provided in the left hand casting for bearing removal purposes.

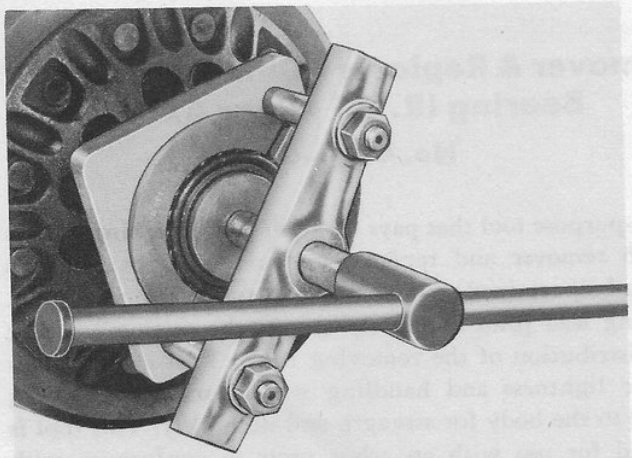


Replacer • Differential Side Bearing Cone • Rear Axle

No. 4221-J

To assure replacement of the bearing cone without damage, this tool is a factory termed "essential." The protruding pilot mates with the inside diameter of the carrier, lining up both tool and bearing, and thus assuring straight insertion of the cone. Protruding lips, formed by the counterbore on the driving face, bear on the cone. The knurled handle has a reduced diameter knocker head. For corrosion resistance tool is hard bright nickel plated.

NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.



Remover • Differential Side Bearings • Rear Axle

No. 4221-K

1948-1950 Ford 2½ Ton Truck

No. 4221-L

FOR

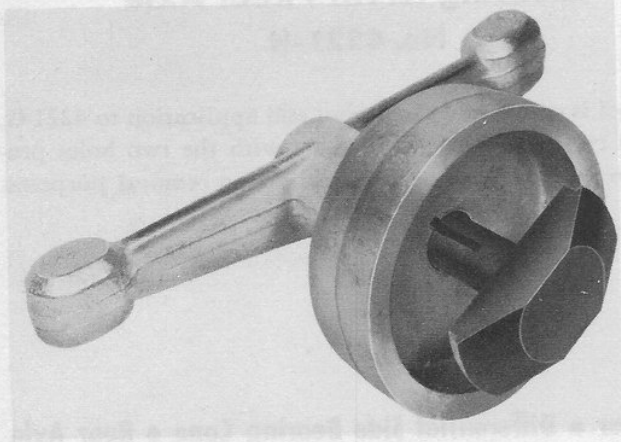
5MB Ford Motor Coach • 8MB Ford Motor Coach

This tool guarantees the following in its application of removal of side bearings: —

1. It removes the roller bearing without damage to rollers or race; enabling the bearing to be re-used.

2. It removes bearing with a steady equalized pull, fully eliminating any cocking of the bearing. (Progressive cocking of bearing, as in the case when "hammer and chisel" means are used, always results in some degree of damage to the carrier. Due to such damage, replacement bearing may press on loose, have play or be cocked resulting in faulty differential operation, or the necessity of carrier replacement).

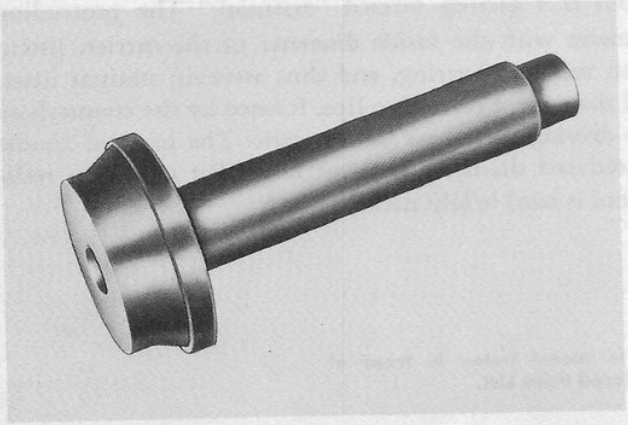
3. Fast, safe and efficient removal of bearings.



Remover • Housing Bearing Cup • Rear Axle

No. 4222

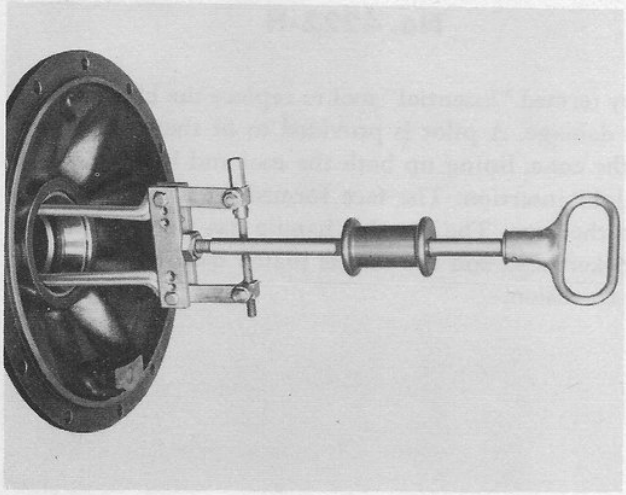
This well designed tool removes the roller bearing quickly and without cocking the bearing and enlargening the closely held diameter of the bearing recess or counterbore. The puller head is closely machined to a tapered protruding lip that tightly mates behind the bearing. Puller screw has a ¾" fine thread for maximum thread leverage, which in combination with the wing type forged steel hand screw, walks the bearing out in a hurry. The screw is kept from rotating by a hardened key in the lightweight, high strength alloy cap or supporting head. All parts are hard bright nickel plated to resist corrosion.



Replacer • Housing Bearing Cup • Rear Axle

No. 4222-A

This form fitting tapered pilot replacer assures a fully bottomed bearing in the shortest time with a minimum possibility of cocking or damage to parts. Handle is knurled for ease of handling and has a reduced diameter knocker head. Hard bright nickel plated for corrosion resistance.



Remover • Differential Side Bearing Cups • Rear Axle
No. 4222-C

FOR

5MB Ford Motor Coach • 1948-1950 Ford 2½ Ton Truck
8MB Ford Motor Coach

Also serves as:

REMOVER • DRIVE PINION BEARING CUP • REAR AXLE

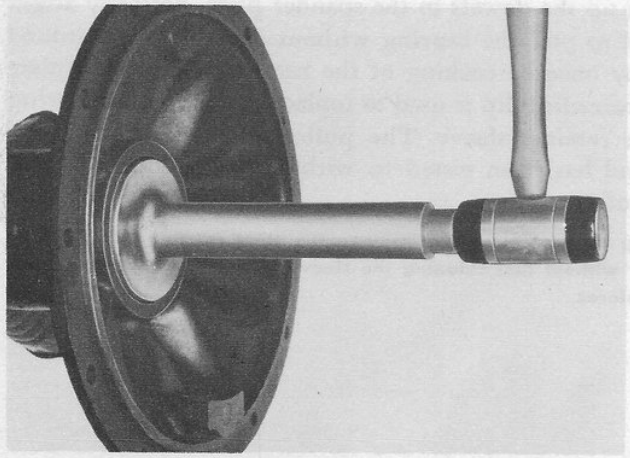
FOR 1948-1950 Ford 2 Ton Truck

REMOVER • BEARING CUPS (INNER & OUTER) • FRONT HUB

FOR

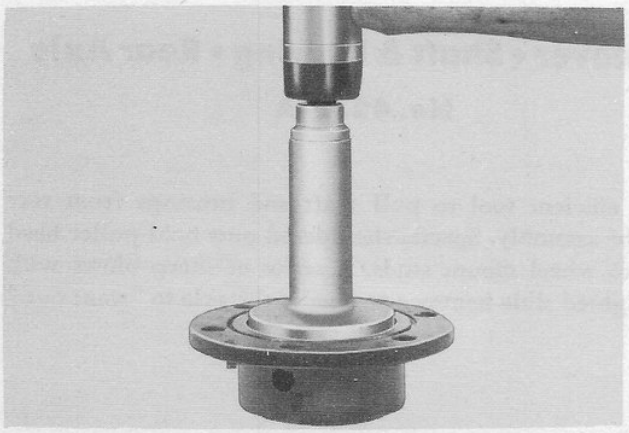
FOR 1948-1950 Ford 2½ and 3 Ton Trucks

This is a multi-purpose tool readily adaptable to many time-saving uses. The leg positions may be changed to any of three positions giving a range of 1½" min. to 6" max. diameter at the end of the pulling lips. Legs are readily expanded behind cups and held there by the adjustment screw. The weighted hammer on the handle assembly starts the tight ones coming in a hurry. One tool that is a "must" in every garage.



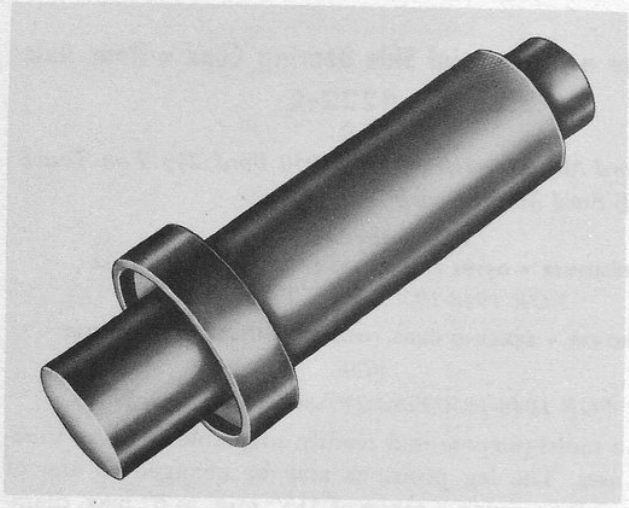
Replacer • Differential Side Bearing Cups • Rear Axle
No. 4222-D

Fully bottomed cups — without marred bearing surfaces — are inserted effectively and fast. This tool has tapered cup-fitting pilot and is cored inside for lightness in handling. A hardened steel knocker head is inserted on the driving end for long life and efficiency.



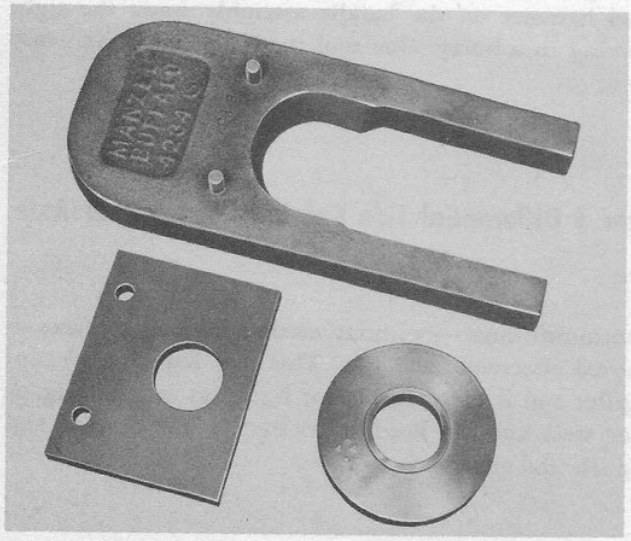
Replacer • Drive Pinion Bearing Cup • Rear Axle
No. 4222-G

For fast and trouble free cup replacement. Tapered, form fitting to cup, lead pilot starts cup into bore by exerting the driving force evenly on bearing surface. Tool is hard bright nickel plated malleable iron, cored for lightness and balance with inserted hardened steel knocker head.



Replacer • Differential Bearings • Rear Axle
No. 4222-H

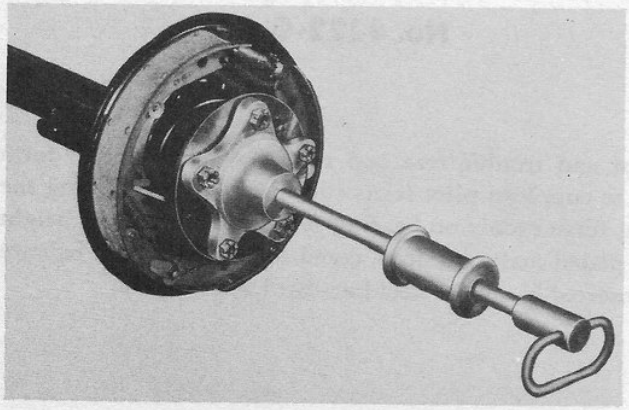
A factory termed "Essential" tool to replace the bearing cone without damage. A pilot is provided to fit the inside diameter of the cone, lining up both the tool and bearing, assuring straight insertion. The face formed by the counterbore bears on the cone. The knurled handle has a reduced diameter knocker head and the tool is plated hard bright nickel to resist corrosion.



Remover & Replacer • Main Bearing • Rear Axle
No. 4234

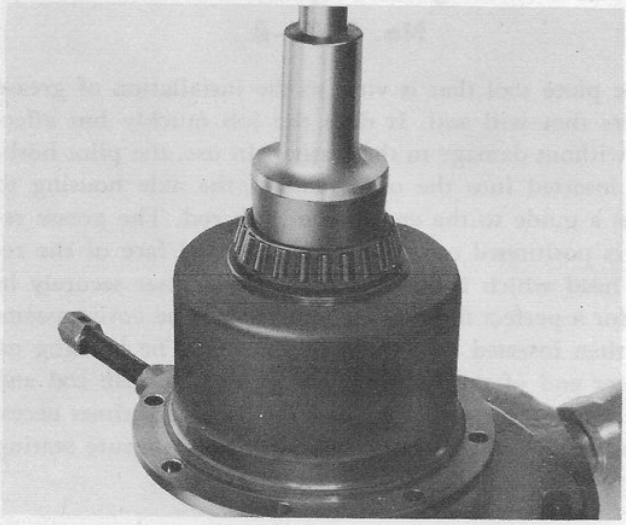
A three piece tool, used with an arbor press to remove and replace the outboard rear axle bearing. The plate, with holes picking up the dowels in the spanner plate, perfectly aligns the tool to pull the bearing without damaging the ground finish by unequal cocking of the bearing. The round plate with protruding lip is used to replace both the new bearing and the retainer sleeve. The puller plate is made of alloy steel and has been tested to withstand a pulling force in excess of 25 tons.

Warning: Do not attempt to remove the steel retaining sleeve with this unit without first relaxing the sleeve O.D. by hitting with chisel in four places.



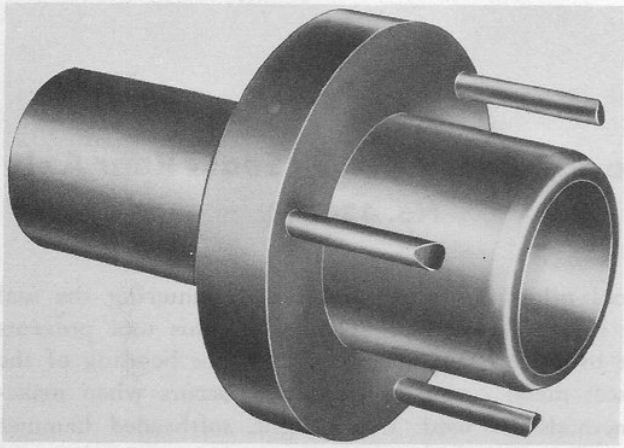
Remover • Shaft & Bearing • Rear Axle
No. 4235-A

A fast, efficient tool to pull shaft and bearings from rear axle tube assembly. Special shouldered nuts hold puller head firmly to wheel mount studs. A series of sharp blows with the weighted slide hammer persuades the axle to "want out."



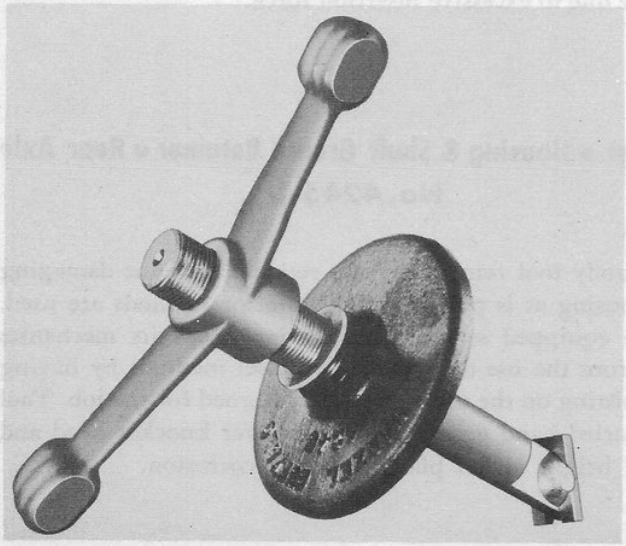
Replacer • Differential Side Bearing (R. H.) • Rear Axle
No. 4242

Lead pilot and protruding pressing lip, assure that bearing will be bottomed rapidly without cocking or damage. The body of this tool is made from a high strength but light-weight alloy, with hardened steel driving face guaranteeing ability to take it.



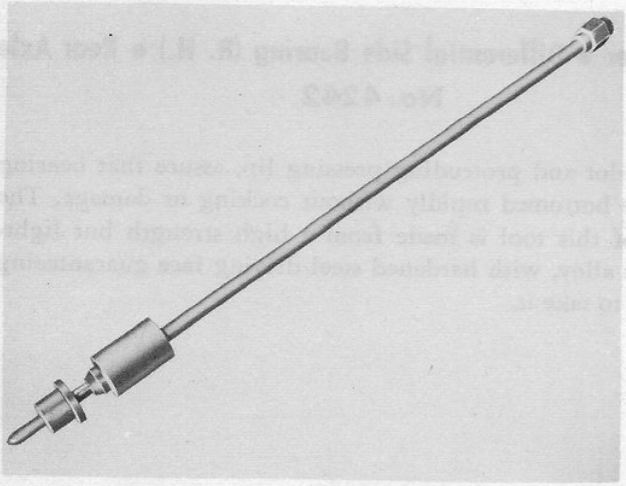
Remover • Differential Side Bearing (R.H.) • Rear Axle
No. 4242-A

Hardened steel pins accurately located, mate with cored slots in the gear support case and press against bearing cone at three places. Pins are mounted into a steel ring permanently attached to the body of high strength alloy. A protruding pilot holds tool pins in line to press off bearing without damage to accurately machined inside and outside diameter of the malleable iron gear support case.



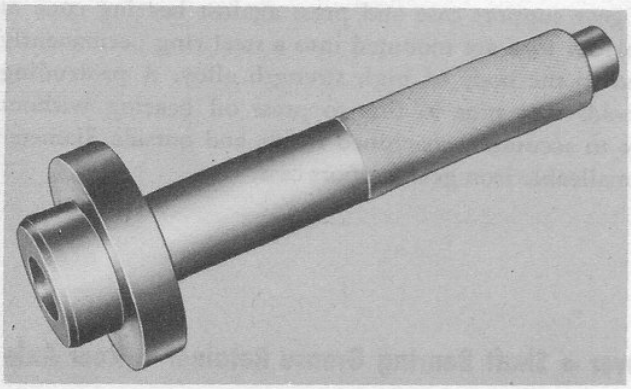
Remover • Shaft Bearing Grease Retainer • Rear Axle
No. 4245

This tool is essential for removing the 4245 Rear Axle Shaft Grease Retainer and 4655 Drive Shaft Bearing Sleeve. The pulling head pivots to a flush position on the end of the jack screw allowing the jack screw to be inserted in the I.D. of the retainer. A key slot in the screw and key in the bearing plate keeps the pulling head from rotating when the wing type hand nut is turned. No wrench is required when this tool is used.



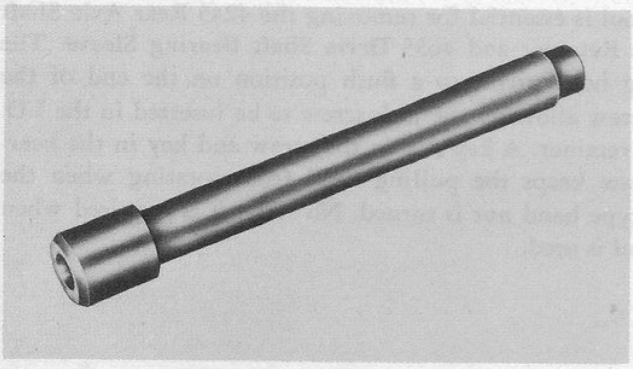
Replacer • Housing and Propeller Shaft • Rear Axle
No. 4245-A

A three piece tool that is vital to the installation of grease retainers that will seal. It does the job quickly but effectively without damage to the leather. In use, the pilot bushing is inserted into the outer end of the axle housing to serve as a guide to the end of the push rod. The grease retainer is positioned on the piloted, recessed face of the replacer head which forms and holds the leather securely in shape for a perfect fit with the axle shaft. The entire assembly is then inserted into the axle housing. The bushing on the outer end of the housing will guide the push rod and grease retainer perfectly into position. It is sometimes necessary to *lightly* tap the end of the push rod to assure seating of the retainer.



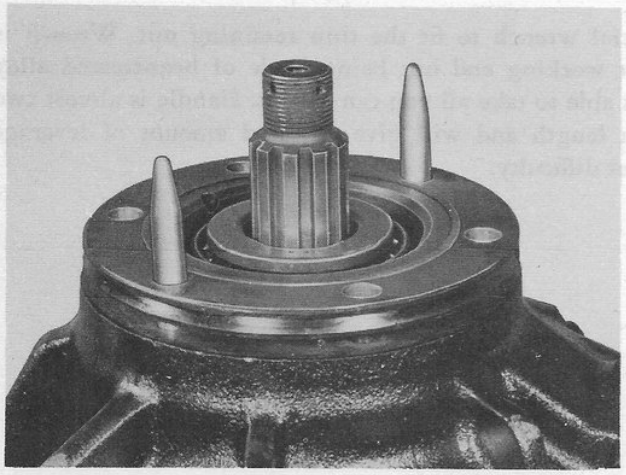
Replacer • Bearing & Oil Seal • Rear Axle
No. 4245-B

This tool pilots on inside of oil seal, centering the seal against the replacing face. The use of this tool prevents damage to the oil seal, such as cocking or bending of the thin sheet metal casing as frequently occurs when makeshift methods are used. Use a light, softheaded hammer (Manzel Tool M-170-H) as further precaution against seal collapse due to excessive insertion force.



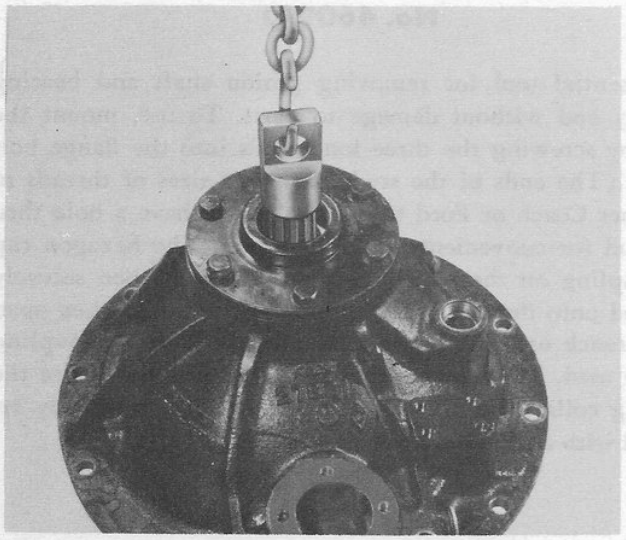
Remover • Housing & Shaft Grease Retainer • Rear Axle
No. 4245-D

This handy tool removes grease retainer without damaging axle housing as is possible when inferior methods are used. A well equipped service organization keeps its mechanics away from the use of punches or chisel methods by having and insisting on the use of the tool designed for the job. Tool has knurled hand grip, reduced diameter knocker head and is hard bright nickel plated to resist corrosion.



Locating Pins • Pinion Bearing Gauge Assembly • Rear Axle
No. 4608

A time saver, insuring line-up of cage assembly gaskets, shims, bolts and grease retainer support assembly. Pins are tapered and accurately machined to fit mounting holes.



Lifting Tool • Pinion Gear Assembly • Rear Axle
No. 4609

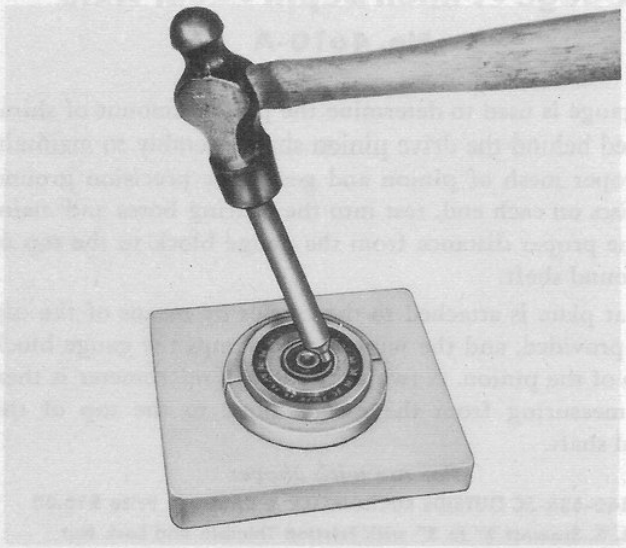
FOR 1948-1950 Ford 3 Ton Truck

A useful means of handling the pinion gear assembly on chain fall or hoist. The threaded I.D. screws on to the end of the pinion shaft thereby protecting threads and protruding spline from damage while moving the assembly.

No. 4609-B

FOR 1948-1950 Ford 2 Ton Truck

4609-B is similar to 4609 Lifting Tool as shown in photo but has different thread to fit 2 ton truck pinion shaft.



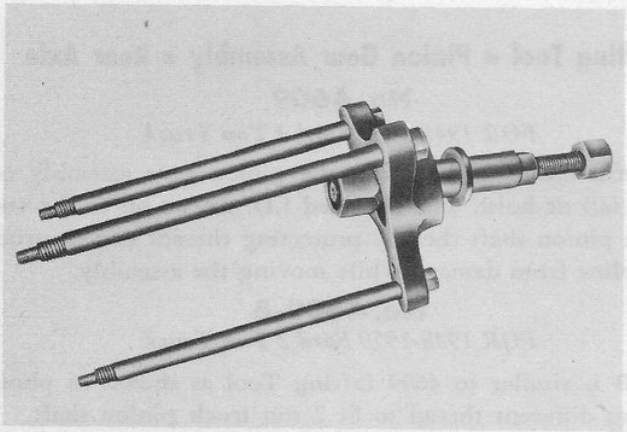
Peen Tool • Drive Pinion Shaft (Pilot Bearing End) • Rear Axle
No. 4609-A

The pilot bearing on the end of the drive pinion shaft is retained by peening or staking the end of the shaft in four places. This hardened steel tool has the factory recommended spherical diameter on its peening end, that assures proper retention of the pilot bearing. Has knurled handle for sure holding and hard bright nickel plating to minimize corrosion. In this photo the tool is being used with 4625-D for a holding fixture.

NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.

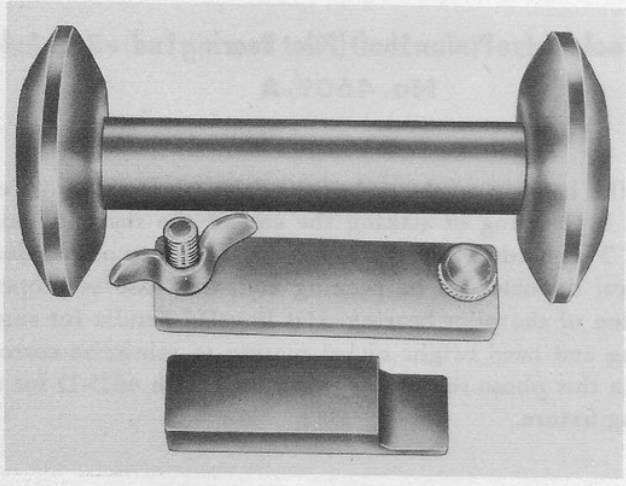
Wrench • Drive Pinion Gear Retaining Nut • Rear Axle
No. 4609-C

A special wrench to fit the thin retaining nut. Wrench is thin at working end but being made of heat-treated alloy steel is able to take all you can give it. Handle is almost two feet in length and will give required amount of leverage without difficulty.



Remover • Pinion Shaft and Bearing Assembly • Rear Axle
No. 4609-D

An essential tool for removing pinion shaft and bearing quickly and without damage to parts. To use, mount the head by screwing the three long studs into the flange bolt circle. (The ends of the studs have two sizes of threads to fit either Coach or Ford tapped holes and have a hole thru the stud for convenience in tightening). The hexagon cap or coupling on the end of the jack screw is then securely screwed onto the end of the pinion shaft. A 1¼" hex open end wrench or a pin or drift thru the hole in the coupling can be used. Then, by turning the hex collar nut above the bearing collar, the pinion shaft and bearing is quickly removed with a minimum of time and effort.



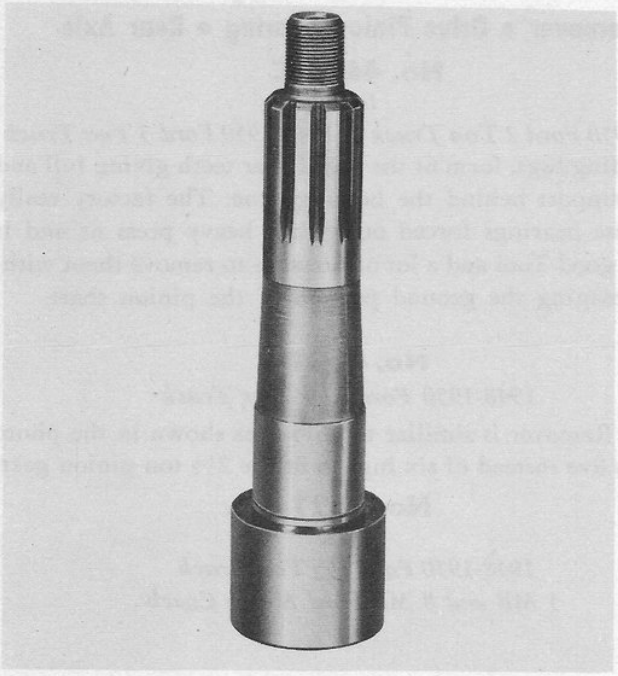
Gauge • Pinion Depth • Rear Axle
No. 4610-A

This gauge is used to determine the proper amount of shims required behind the drive pinion shaft assembly to maintain the proper mesh of pinion and gear. The precision ground half discs on each end, rest into the bearing bores and maintain the proper distance from the gauge block to the top of the ground shaft.

The flat plate is attached to the carrier by means of the cap screw provided, and the wing screw clamps the gauge block on top of the pinion. A two-to-three inch micrometer is then used, measuring from the gauge block to the top of the ground shaft.

For use with above:

M-140-436-3C OUTSIDE MICROMETER & CASE . . . Price $16.60
L. S. Starrett 2" to 3" with Friction Thimble and Lock Nut



Master Pinion • Rear Axle

No. 4610-CC

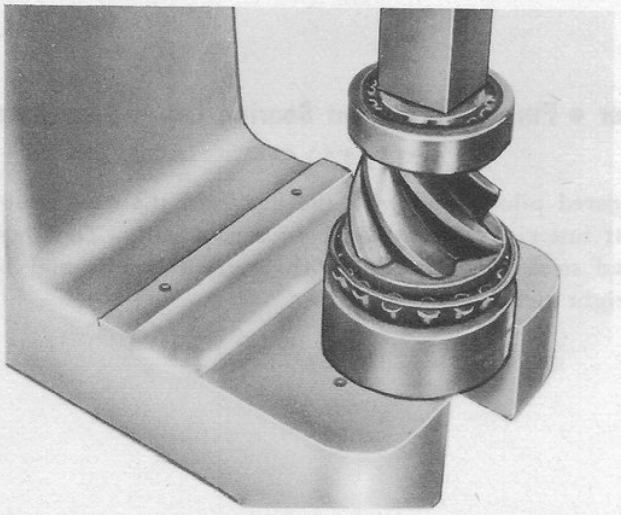
FOR

Late '49 and '50 Ford Passenger Cars

Selected size shims are used between pinion head and rear bearing to assure correct pinion clearance adjustment. This gauging tool will save a minimum of ½ hour per pinion change. The head is accurately machined to extremely close tolerance minimizing error in measuring gear thickness. *An accurate depth registry is assured.*

On time saving, usual press fit diameter is precision ground to a slip fit size. This eliminates pressing bearing onto pinion shaft and pulling it off at least twice while establishing correct shimming. Most important, it assures a bearing that mates firmly with pinion shaft for when the correct shimming is determined, bearing and shim is pressed onto the new pinion shaft for the first time.

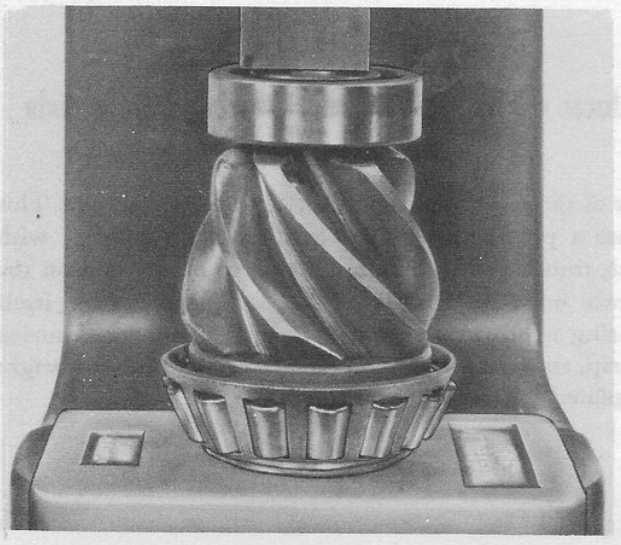
Frequent removal and replacement of the bearing on the regular pinion often damages either shaft or bearing by wiping press fit diameters. Noise, wear and further "no charge" repairs are the usual result.



Replacer • Drive Pinion Inner Bearing • Rear Axle

No. 4615

In agreement with factory recommendations, bearings should be replaced by means of an arbor press. The thin retainer cage of the bearing protrudes higher than the face of the cone, making replacement a difficult operation to perform without damage to the bearing. The face of this tool is counterbored to clear the cage, with the pressing area the correct diameter to bear fully on the cone — thus giving fast, efficient, damage free replacement.



Replacer • Drive Pinion Bearing • Rear Axle

No. 4615-A

FOR 1948-1950 Ford 2 Ton Truck
5 MB and 8 MB Ford Motor Coach

No. 4621-A

FOR 1949-1950 Lincoln

No. 4621-D

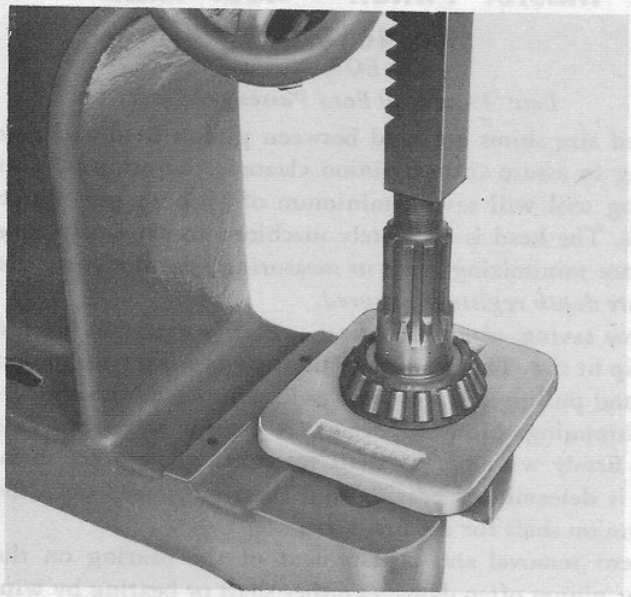
FOR 1948-1950 Ford 2½ Ton Truck

No. 4621-F

FOR

1949-1950 Mercury • 1949-1950 Ford Passenger Cars
1949-1950 Ford Sta. Wagon • 1948-1950 Ford ½ Ton Truck

Replacer plates for arbor press replacement of bearings as per factory recommendation. Plates are designed to speedily replace bearings without damage to shaft, bearing cone or roller retainer cage. Made of a high tensile manganese bronze alloy for strength and bored to center the protruding machined pressing face with the face of the bearing cone.



Remover • Drive Pinion Bearing • Rear Axle

No. 4615-C

FOR

1948-1950 Ford 2 Ton Truck • 1948-1950 Ford 3 Ton Truck

Protruding lugs, form fit the spiral gear teeth giving full and equal support behind the bearing cone. The factory really has these bearings forced on with a heavy press fit and it takes a good Tool and a lot of pressure to remove them without damaging the ground portion of the pinion shaft.

No. 4621-E

1948-1950 Ford 2½ Ton Truck

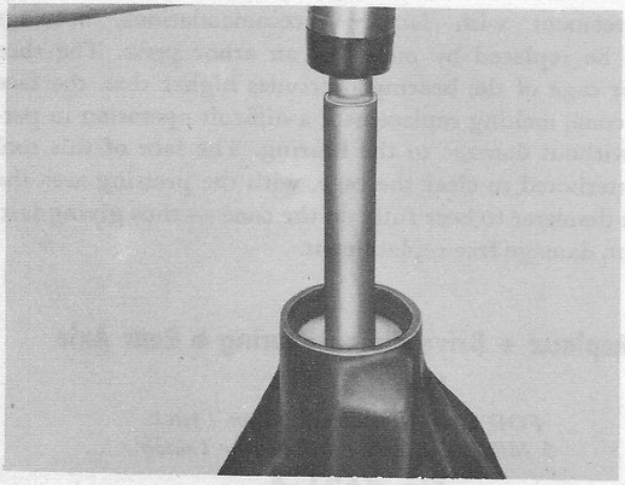
4621-E Remover is similiar to 4615-C as shown in the photo but has five instead of six lugs to fit the 2½ ton pinion gear.

No. 4621-G

FOR

1948-1950 Ford 1½ Ton Truck

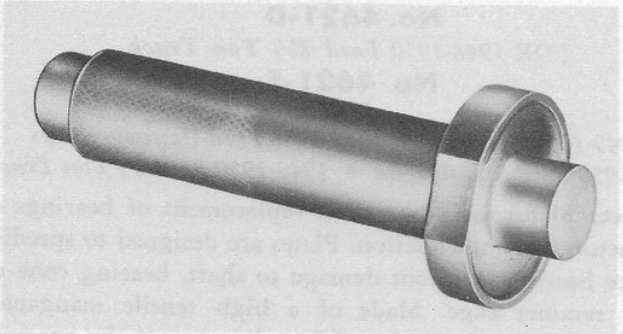
5 MB and 8 MB Ford Motor Coach



Replacer • Pinion Shaft Front Bearing Cup • Rear Axle

No. 4616

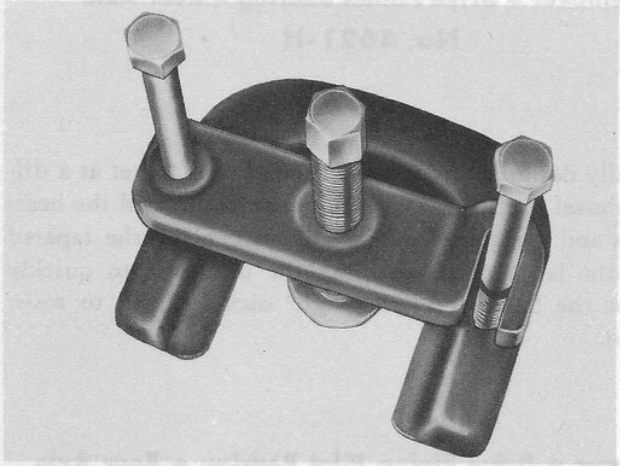
The tapered pilot mates with the inside of the cap, assuring that inserting force will be exerted equally. Tool has hardened steel knocker head with knurled handle and is hard bright nickel plated.



Replacer • Pinion Shaft Pilot Bearing • Rear Axle

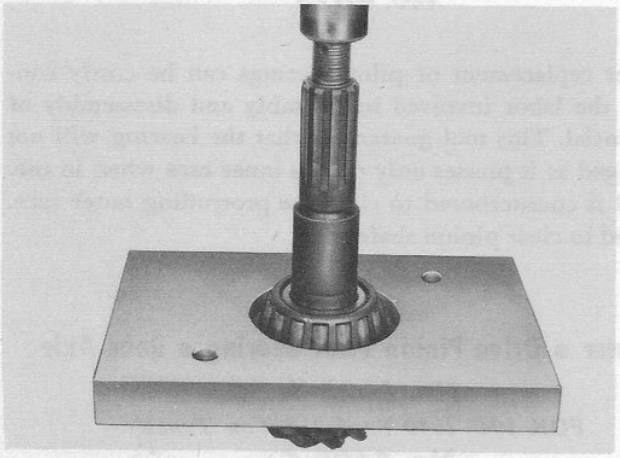
No. 4616-A

For one of the most important bearings in the rear axle. This Tool has a protruding pilot which lines up bearing with replacer, thus exerting the drawing force evenly and on the outer race only. A recommended Tool that pays for itself in assuring a properly installed bearing. Tool has knurled hand grip, reduced diameter knocker head and is hard bright nickel plated for corrosion resistance.



Remover • Pinion Shaft & Bearing • Rear Axle
No. 4621

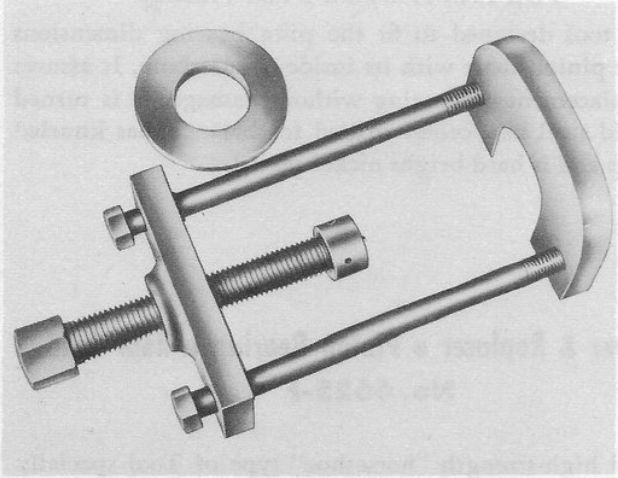
The 4621 Remover quickly and easily removes pinion shaft and roller bearing out of the differential housing or carrier without damage to parts. Puller plate and puller head are made of high tensile alloy steel casting for maximum strength. Puller head has slotted hole to enable Tool to be assembled around housing and pinion shaft with a minimum of set-up time. This Tool makes a simple job out of a tough one.



Remover • Pinion Bearing • Rear Axle
No. 4621-B

Plate has piloting studs that accurately pull halves of the puller plate securely into position behind the bearing. The plate halves are counterbored and tapered from both sides to give maximum and equal bearing on the cone only.

As factory recommended, this is an arbor press job, and plate is sufficiently large enough to span the usual press gap. See Automotive Servicing Equipment Volume for Arbor Press.



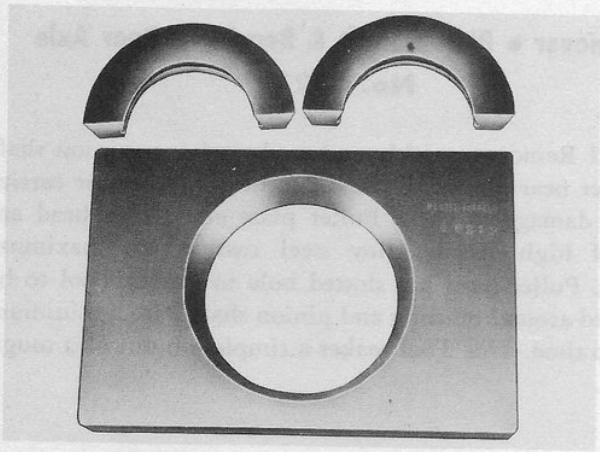
Remover & Replacer • Pinion Bearing • Rear Axle
No. 4621-C

A necessary three purpose forged Tool that pays for itself in time saving and elimination of parts damage. The Tool is used as a small arbor press for the following operations: —

1. Removing pinion shaft from roller bearing by straddling bottom plate behind roller bearing and bringing jack screw to bear on end of pinion shaft. The bottom plate opening is counterbored to mate behind roller bearing and hypoid gear with its protruding lips giving maximum bearing on the back of the roller bearing.

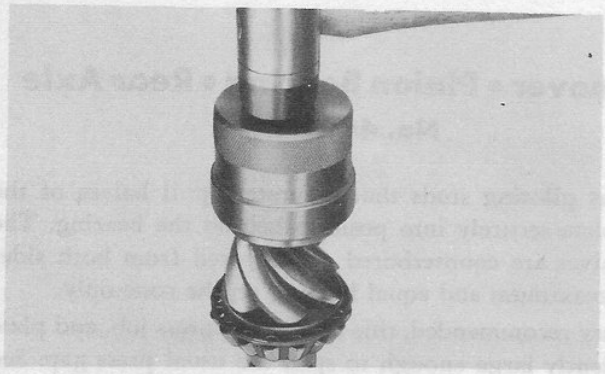
2. For assembling the roller bearing on the pinion shaft. Use special collar (Detail 9), with protruding face to press on bearing, using the Tool as an arbor press. The protruding face will prevent damage to the roller retainer cage.

3. For assembling the second or outside roller bearing cone. Use the collar (Detail 9) in the reversed position with protruding face away from bearing cone.



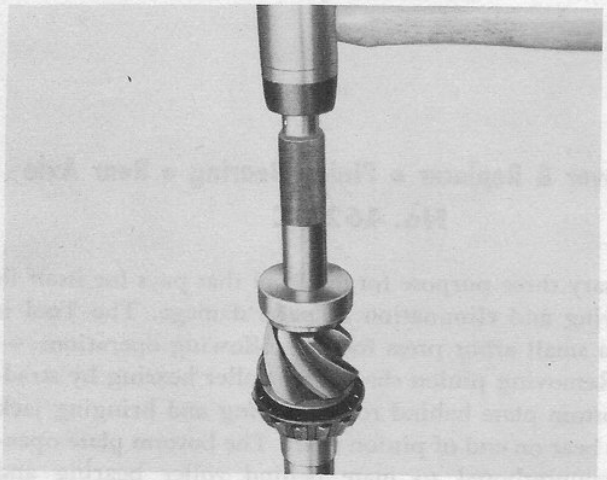
Remover • Drive Pinion Bearing • Rear Axle
No. 4621-H

A specially designed arbor press type of tool to get at a difficult removal problem. The split collar fits around the bearing rolls and the complete assembly is held by the tapered hole in the large plate, enabling the mechanic to quickly press out the bearing. Hard bright nickel plated to resist corrosion.



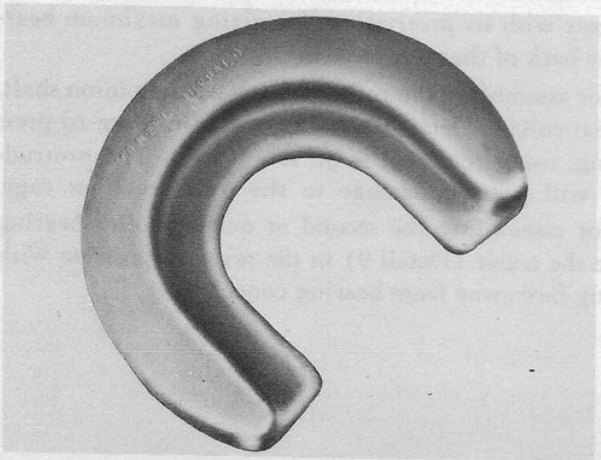
Replacer • Drive Pinion Pilot Bearing • Rear Axle
No. 4625

Improper replacement of pilot bearings can be costly considering the labor involved in assembly and disassembly of a differential. This tool guarantees that the bearing will not be damaged as it presses only on the inner race when in use. The tool is counterbored to clear the protruding outer race, and bored to clear pinion shaft end.



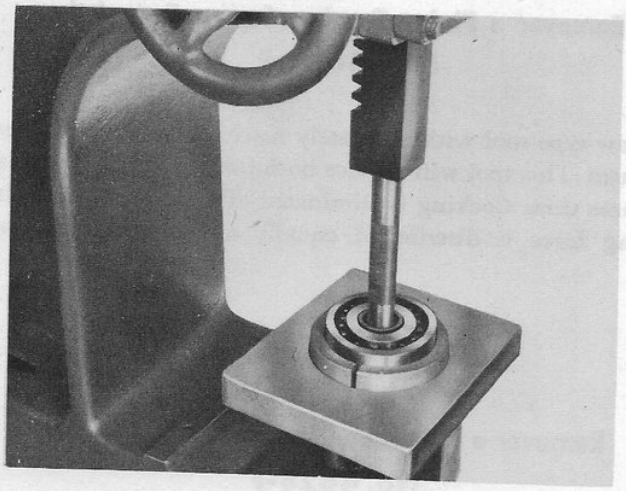
Replacer • Drive Pinion Pilot Bearing • Rear Axle
No. 4625-A
FOR 1948-1950 Ford 2½ Ton Truck
No. 4625-C
FOR 1948-1950 Ford 2 Ton Truck

Another tool designed to fit the pilot bearing dimensions and clear pinion shaft with its inside counterbore. It assures rapid replacement of bearing without damage. It is turned from solid steel bar, center drilled for balance, has knurled hand grip and is hard bright nickel plated.



Remover & Replacer • Pinion Bearing • Rear Axle
No. 4625-F

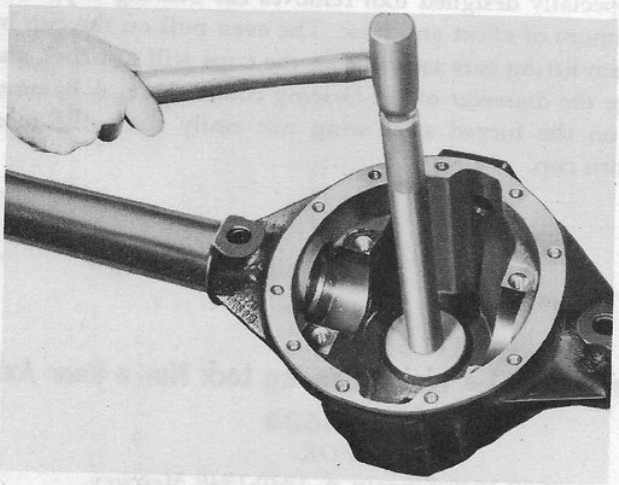
A rugged high-strength "horseshoe" type of Tool specially designed to quickly remove and replace the pinion bearing. An easy Tool to use and made to "take it." Plated hard bright nickel, as a rust and corrosion preventative.



Remover • Drive Pinion Pilot Bearing • Rear Axle

No. 4625-D *1949-1950 Ford 2, 2-1/2 & 3 Ton Trucks*

An essential, multi-purpose Tool, that will remove pilot bearings from drive pinions on the above three trucks. The Tool is furnished with three sets of split rings having different diameter and thickness on the protruding ledge. It is not necessary to file away the staking that retains the pilot bearing as the remover is constructed to take sufficient load to "straighten-up" the peened portion of the pinion shaft. Rings are stamped to show the pinion assembly they are designed for. Not three Tools but one Tool to do three jobs.



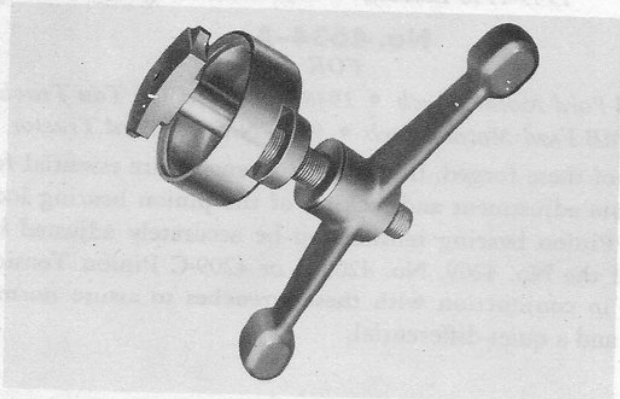
Replacer • Pinion Rear Bearing Cup • Rear Axle

No. 4628 *FOR 1949-1950 Lincoln*

No. 4628-A

FOR 1949-1950 Mercury • 1949-1950 Ford Station Wagon
1948-1950 Ford ½ Ton Truck

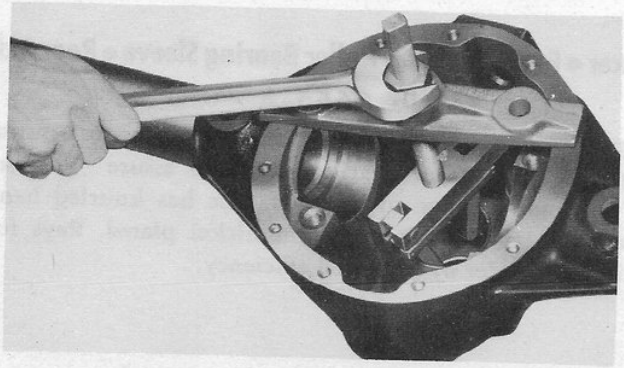
The pinion shaft rear bearing cup located in the inside of the differential carrier or housing is difficult or practically impossible to replace without the proper Tool. This tapered, form fitting to cup, replacer makes the job easy. Inserting force is exerted equally on the outer diameter of the cup as the tapered pilot lines up Tool with cup. Tool has an extra long handle with knurled hand grip to reach down in and still permit the use of a persuader on the reduced diameter knocker head. Hard bright nickel plated for corrosion resistance.



Remover • Front Pinion Bearing Cup • Rear Axle

No. 4628-B

This Tool removes the bearing cup with a minimum of effort and time. The even pull exerted on the cup by the form fitting ears assures that cup will not cock and enlarge the diameter of the bearing counterbore. A hammer blow on the forged steel wing nut easily starts the most stubborn cup.

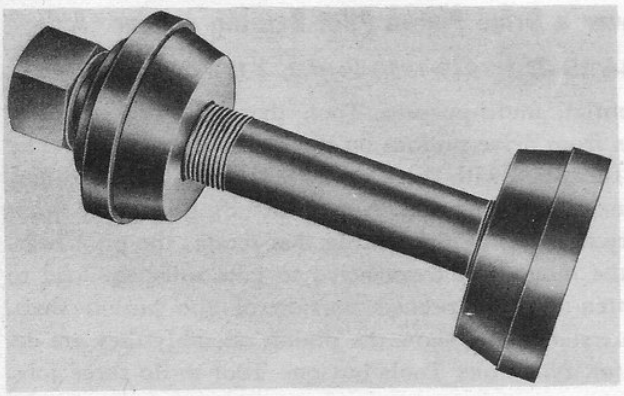


Remover • Rear Pinion Bearing Cup • Rear Axle

No. 4628-D

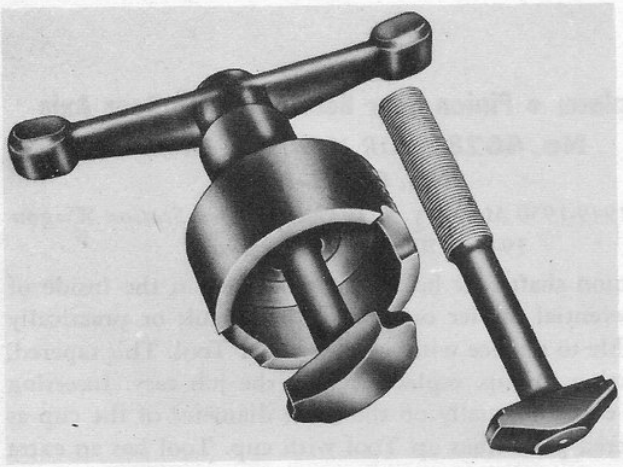
A Tool, similar to Hub Tool No. 4628-C but not drilled for supporting columns. Cross bar rests across banjo. The legs are expanded into cored slots behind the rear pinion bearing cup by turning the end of the puller screw. A few more quick turns and cup will easily pull out.

(Tool No. 4628-C may be used for the same purpose merely by removing the supporting columns). See Page 9.



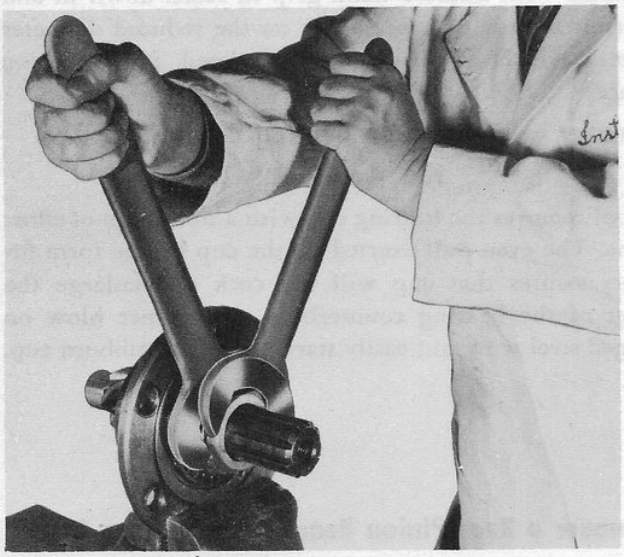
Remover • Pinion Bearing Cups • Rear Axle
No. 4628-E

A screw type tool with accurately machined pilot and pressing faces. This tool will replace both inner and outer cups at the same time. Cocking is eliminated during insertion as the driving force is distributed equally around the inserting faces.



Remover • Pinion Bearing Cups • Rear Axle
No. 4628-F

This specially designed tool removes the bearing cups with a minimum of effort and time. The even pull on the cup by the form fitting ears assures that the cups will not cock and enlarge the diameter of the bearing counterbore. A hammer blow on the forged steel wing nut easily starts the most stubborn cup.



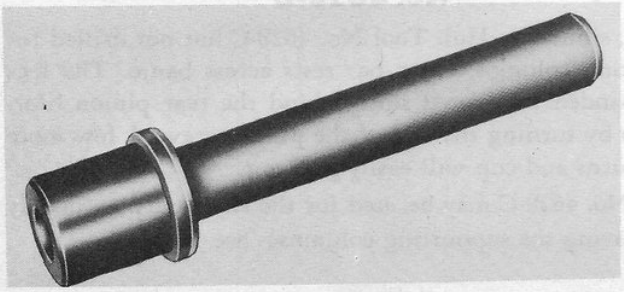
Wrenches (Pr.) • Pinion Bearing Lock Nut • Rear Axle
No. 4634
FOR

1939-1948 Lincoln • 1939-1948 Mercury

No. 4634-A
FOR

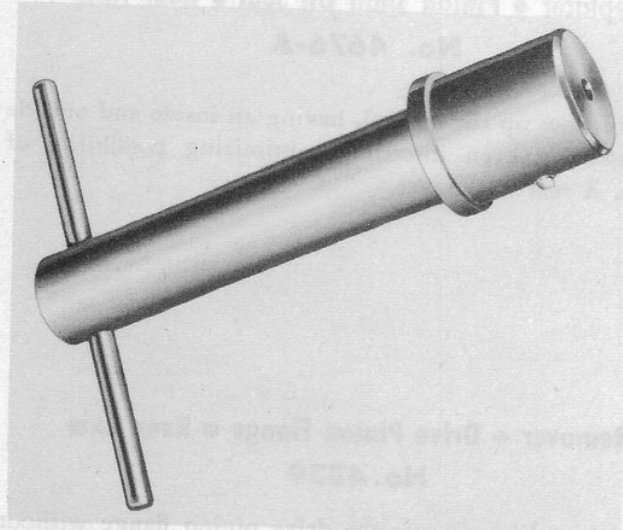
5MB Ford Motor Coach • 1948-1950 Ford 1½ Ton Truck
8MB Ford Motor Coach • 9N, 2N & 8N Ford Tractor

A set of these forged, thin headed wrenches are essential for accurate adjustment and locking of the pinion bearing lock nuts. Pinion bearing tension can be accurately adjusted by use of the No. 4209, No. 4209-B or 4209-C Pinion Tension Scale in conjunction with these wrenches to assure normal wear and a quiet differential.



Replacer • Propeller Shaft Roller Bearing Sleeve • Rear Axle
No. 4655-A

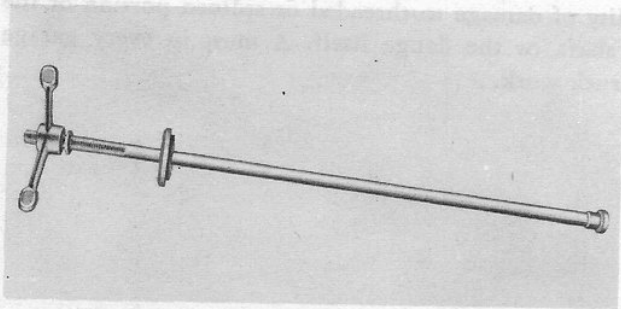
This precision machined replacer is the only proper means of replacing the roller bearing sleeve to assure "meeting time" and non-damage to parts. Handle has knurled hand grip and tool is fully hard bright nickel plated. Pays for itself in short order by increased efficiency.



Remover • Propeller Shaft Roller Bearing Sleeve • Rear Axle

No. 4655-B

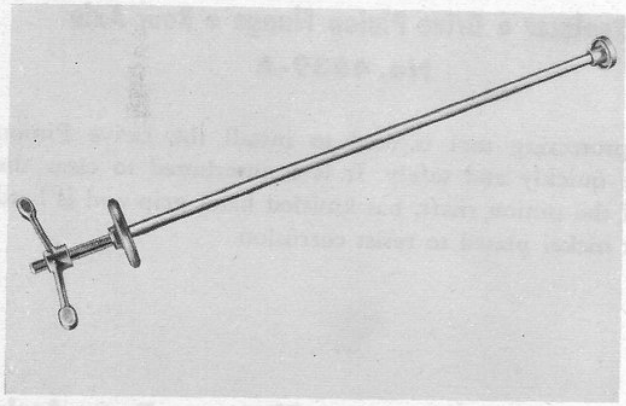
This tool turns a tough job into an easy one. Removes the sleeves without damage in a minimum of time. The tool is inserted into the sleeve. A protruding pin compresses flush with the O.D. on insertion and springs into the oil hole when turned into position. A slight turn and yank on the "Tee" handle and the sleeve is out. Hard bright nickel plated and wear parts hardened to assure long life.



Remover • Propeller Shaft Center Bearing • Rear Axle

No. 4658

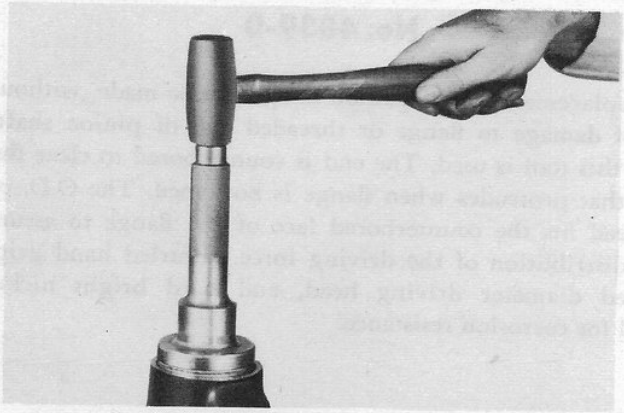
This tool reaches in and walks out the center bearing in a hurry without distortion or damage to shaft or sleeve. The puller rod or jack screw has coarse pitch thread for speed of removal. Furnished with cap to fit end of torque tube and "wing type" screw handle — No wrench is needed.
(Don't forget to remove Zerk fitting before removing the bearing).



Replacer • Propeller Shaft Center Bearing • Rear Axle

No. 4658-A

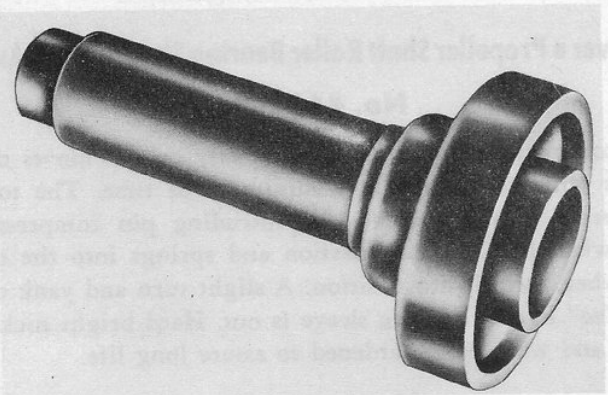
This tool assures fast replacement of the center bearing assembly — automatically lining up bearing assembly and tube grease hole for ready insertion of the Zerk grease fitting. The puller head end of the jack screw has a holding lip and key-slot in line with each other. Puller cap has locating arrow and key. By lining up center bearing grease hole with the holding lip before insertion and keeping arrow on cap in line with grease hole, the wing type screw handle will quickly and evenly draw the center bearing into position.



Replacer • Pinion Shaft Grease Retainer • Rear Axle

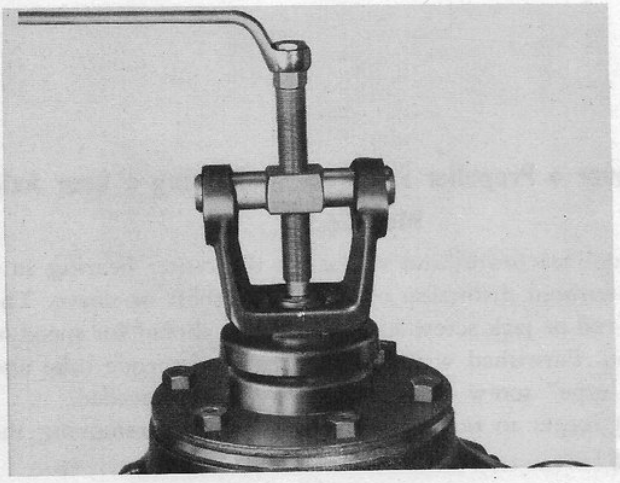
No. 4676

This tool lines up the grease retainer and inserts same evenly, minimizing possibility of damage. It makes a fast job out of a slow, tedious one. A damaged grease retainer can lead to more serious troubles on the car owner's part.



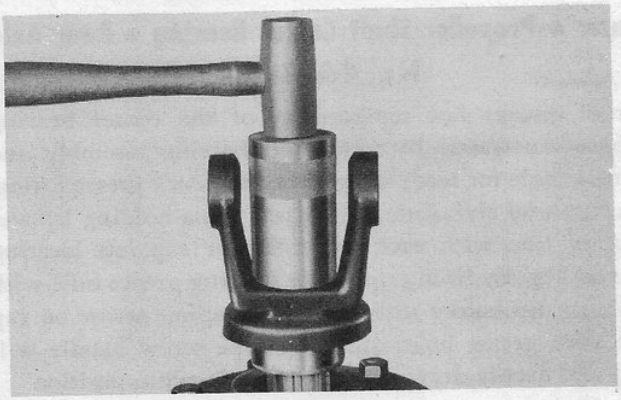
Replacer • Pinion Shaft Oil Seal • Rear Axle
No. 4676-A

This tool lines up the oil seal, having an inside and outside pilot, assuring even inserting, minimizing possibility of damage. A real time saver.



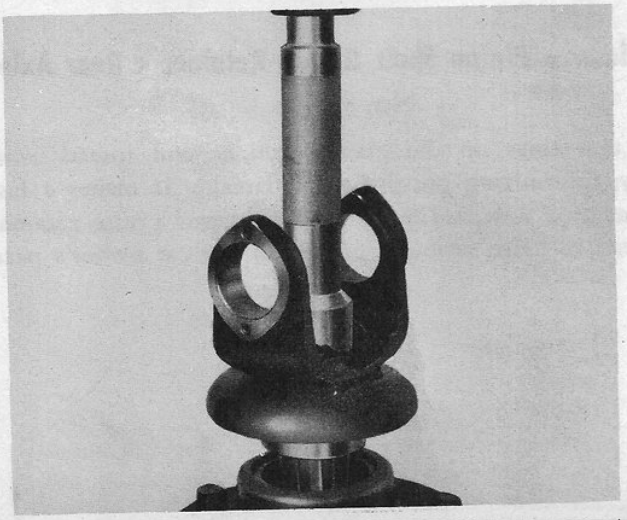
Remover • Drive Pinion Flange • Rear Axle
No. 4839

This tool readily removes the drive pinion flange without possibility of damage to threaded or splined portion of the pinion shaft, or the flange itself. A must in every garage doing truck work.



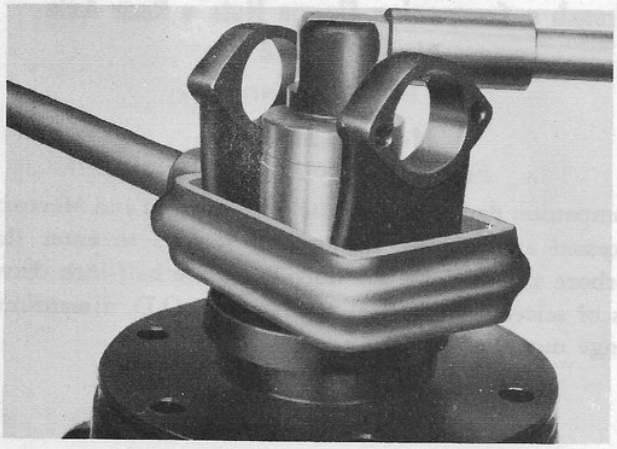
Replacer • Drive Pinion Flange • Rear Axle
No. 4839-A

This protecting tool is used to install the Drive Pinion Flange quickly and safely. It is counterbored to clear the end of the pinion shaft, has knurled hand grip and is hard bright nickel plated to resist corrosion.



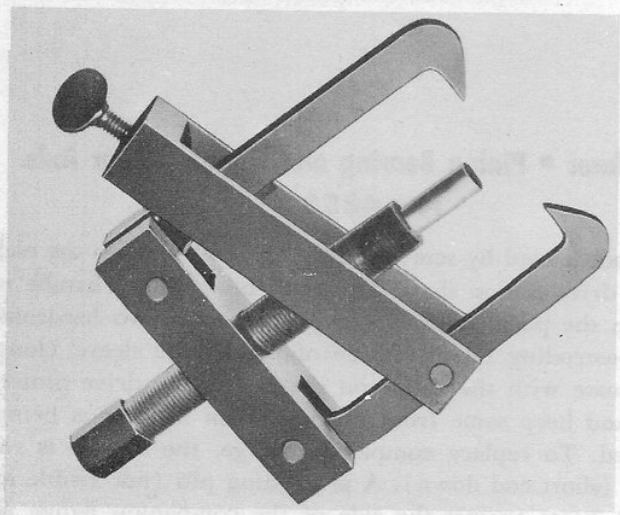
Replacer • Companion Flange • Rear Axle
No. 4839-D

Fast replacement of companion flange can be made, without fear of damage to flange or threaded end of pinion shaft, when this tool is used. The end is counterbored to clear the shaft that protrudes when flange is bottomed. The O.D. of the head fits the counterbored face of the flange to assure even distribution of the driving force. Knurled hand grip, reduced diameter driving head, and hard bright nickel plated for corrosion resistance.



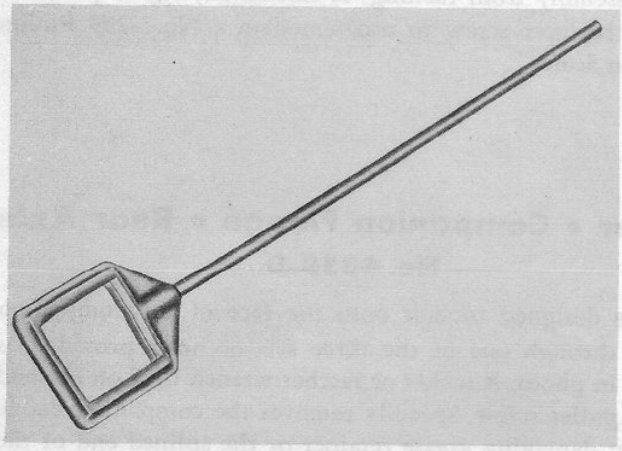
Holder • Drive Pinion Flange • Rear Axle
No. 4851

The high tensile manganese bronze collar fits over the drive pinion flange snugly. It takes a lot of torque to properly assemble this unit and this tool permits that torque to be applied on the nut and pinion shaft by holding the flange and keeping it from turning. The extra long handle permits a one man operation.



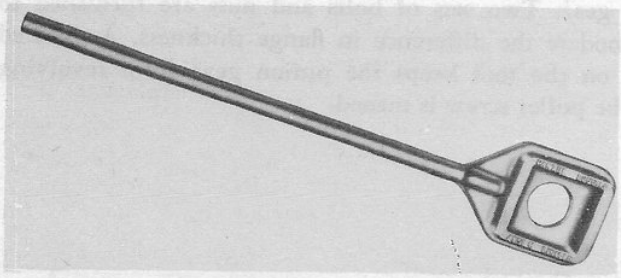
Remover • Companion Flange • Rear Axle
No. 4851-A

A tool that walks off the companion flange in a hurry without damage to flange or drive pinion gear shaft. The hardened steel puller legs are drawn tightly behind the flange and held there by the special thumb screw clamp. A few turns of the jack screw using a standard ¾" open-end or socket wrench is all that is necessary. Hard bright nickel plated to resist corrosion.



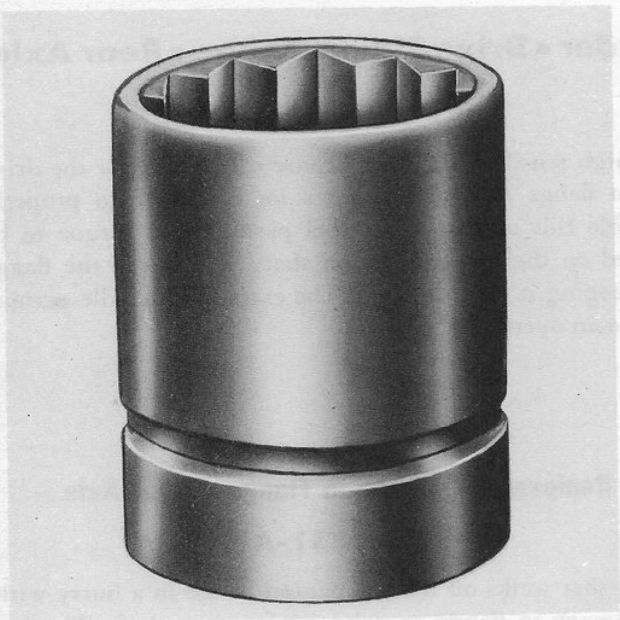
Holder • Companion Flange • Rear Axle
No. 4851-B

This holder nests against the companion flange and the long handle is brought to rest against the bench or floor, leaving both hands free to tighten or loosen retaining nut.



Holder • Drive Pinion Flange • Rear Axle
No. 4851-C

A high tensile manganese bronze collar that fits over the drive pinion companion flange. The flange is kept from turning, permitting the high torque required to assemble this unit to be applied on the nut and pinion shaft. Has a long handle for one man operation.



Wrench • Companion Flange Nuts • Rear Axle

No. 4851-E

FOR 1949-1950 Lincoln

No. 4851-F

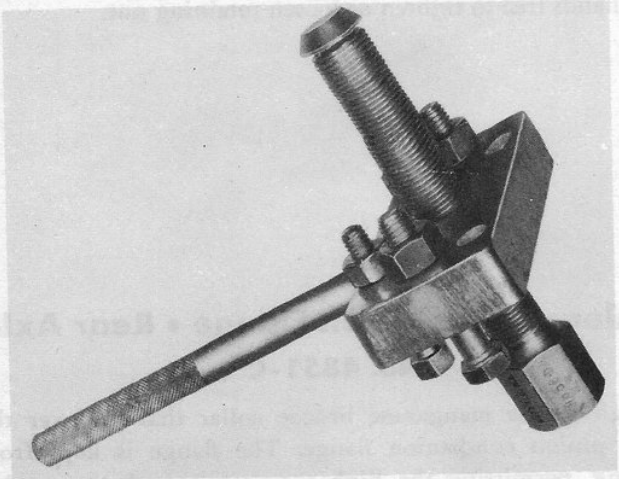
FOR 1949-1950 Mercury

The companion flange nuts on the 1949 Lincoln and Mercury are recessed and require thin-walled sockets to enter the counterbore and encircle the nut. These are half-inch drive sockets of selected alloy steel with correct O.D. dimensions for flange nut removal.

Replacer • Pinion Bearing and Flange • Rear Axle

No. 4858-B

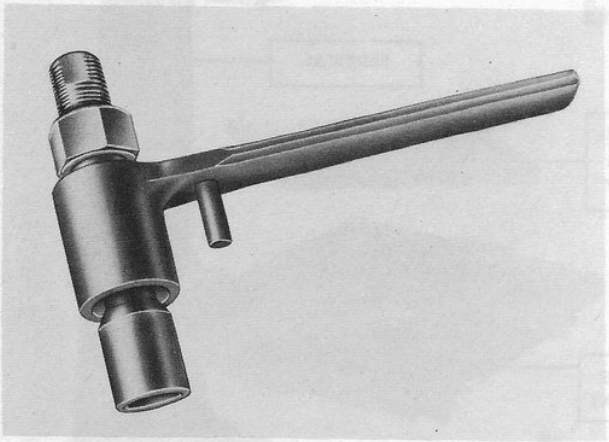
This tool is used by screwing the replacer screw on the end of the drive pinion shaft. To install bearing, the handle is used in the position shown in photograph. Two hardened keys protruding on the inside of the handle sleeve (long end) mate with the spline on the end of the drive pinion shaft and keep same from turning when bearing is being replaced. To replace companion flange, the handle is reversed (short end down). A protruding pin (not visible in photo) bears against the side of the companion flange to keep assembly from turning. A slotted keyway is provided in the replacer screw to accommodate a No. 4209 Pinion Tension Scale.



Puller • Companion Flange • Rear Axle

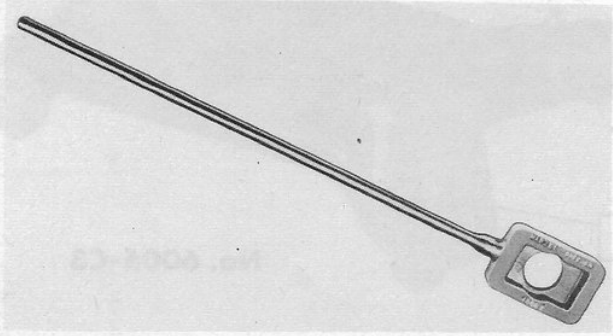
No. 4858-D

Tool is designed to bolt onto the face of the companion flange through one of the three sets of holes provided as shown in photo. A socket or ratchet wrench used on the end of the puller screw, speedily removes the companion flange without damaging grease retainer or the splined end of the pinion gear. Two sets of bolts and nuts are furnished to accommodate the difference in flange thickness. A knurled handle on the tool keeps the pinion gear from revolving when the puller screw is turned.



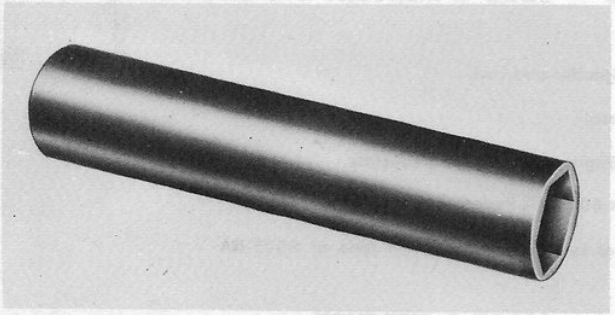
Replacer • Companion Flange • Rear Axle
No. 4858-E

This tool is used by screwing the replacer screw on the end of the rear axle. A protruding pin fits into one of the companion flange holes, keeping it from turning while replacing this flange. A handy item to save time. Hard bright nickel plated to resist corrosion.



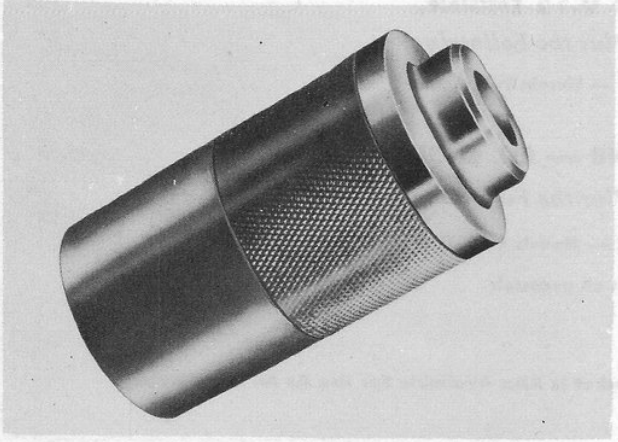
Holder • Companion Flange • Rear Axle
No. 4858-F

The high tensile manganese bronze collar fits over the drive pinion flange snugly. The flange is firmly held, while the high torque required to assemble this unit is supplied to the pinion shaft nut. An extra long handle is provided to permit one man operation.



Wrench • Pinion Flange Nut • Rear Axle
No. 4858-G

This specially designed deep socket is for use with Tool No. 4858-B to correctly check the friction on the pinion bearing to the proper tongue valves. Established by "Ford Motor Company." Made of heat treated steel to withstand abuse. Hard bright nickel plated to resist corrosion.



Replacer • Companion Flange Dust Shield • Rear Axle
No. 4859

This tool assures fast replacement of the dust shield without distortion. It is designed to fit in the groove of the shield to prevent damage during installation. Hard, bright nickel plating resists corrosion.

NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.

Manzel

for the FASTEST, EASIEST OVERHAULS you ever accomplished

The Manzel Repair Stand is one of the greatest single aids to motor repair work. Every Service Department needs several.

Sturdy pedestal is an extra-heavy box-type casting, providing unrivalled rigidity.

Heavy portable base has wide-spread ball bearing casters and roller bearing front wheels.

Latch right on the head plus spindle lock gives firm work support.

Pedestal may be bolted to floor or to portable base. Two lock-screws to prevent creeping when in use.

No. 6005-C3

6005-C3 COMPLETE PORTABLE REPAIR STAND — FORD & MERCURY V-8 ENGINE

Includes the Following Parts:

6005-BA	PEDESTAL ONLY — BOX-TYPE — Complete with Spindle and Lock
6005-D	PORTABLE BASE — For 6005-A or 6005-BA Pedestal
6005-G	MOUNT & SPINDLE — All Ford and Mercury V-8 Engines — to fit all pedestals
6005-T	SWIVEL TOOL TRAY — To fit mounting bracket on 6005-BA Pedestal
6005-PB	PORTABLE PARTS TRAY — With removable bracket to fit 6005-A Column type or 6005-BA Box-type pedestals

6005-C4 COMPLETE PORTABLE REPAIR STAND — FORD & MERCURY V-8 ENGINE & LINCOLN V-12 ENGINE,

Includes All Parts for 6005-C3 Stand Plus the Following:

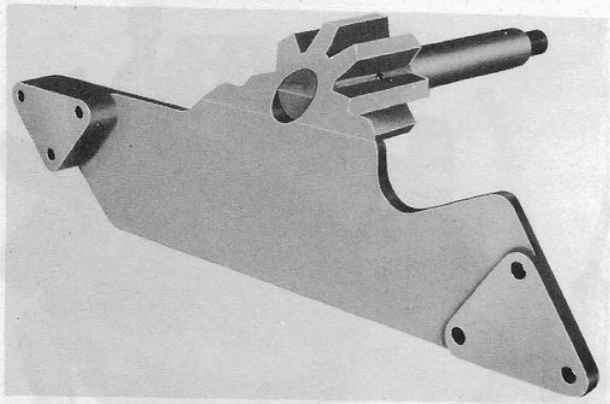
6005-E	ADAPTER PLATE FOR 6005-G MOUNT & SPINDLE — Lincoln V-12 Engine

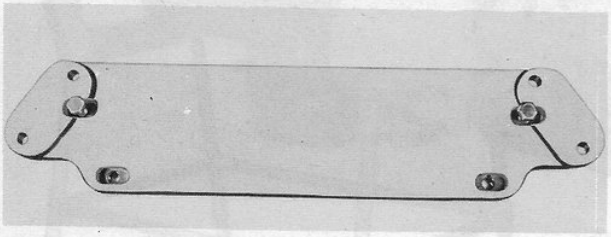
6005-C5 COMPLETE PORTABLE REPAIR STAND — ALL ENGINES

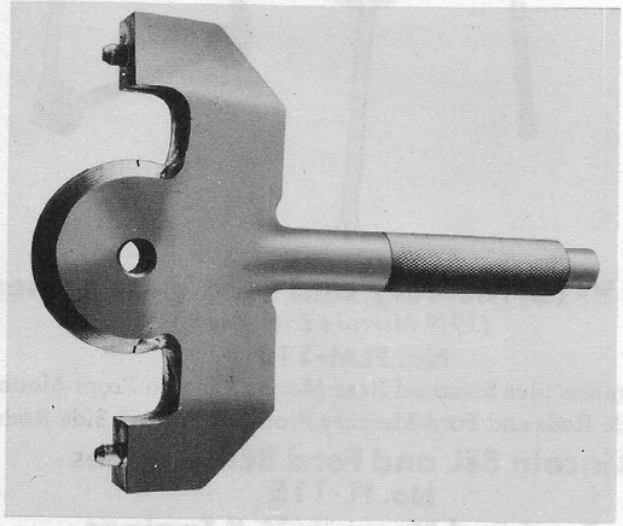
Includes All Parts for 6005-C4 Stand Plus the Following:

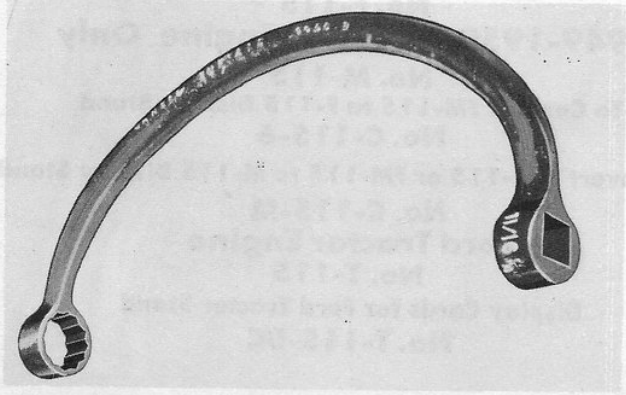
6005	ADAPTER PLATE FOR 6005-G MOUNT & SPINDLE — Models 8 EB, EL & EQ Engines
6005-AA*	MOUNT & SPINDLE — 6 Cylinder Engine — to fit all pedestals (*6005-AA formerly published as 6005-M)

NOTE: Part 6005-P — Portable Parts Tray — Without Bracket Is Also Available For Use As An Extra Tray.









Mount & Spindle

No. 6005-AA • *Ford 6 Cylinder Engine*

No. 6005-B • *Lincoln V-12 Engine*

No. 6005-G • *All Ford and Mercury V-8 Engines*

No. 6005-K • *Lincoln 8EL and Ford 8EB & EQ Engines*

No. 6014 • *Tractor Engine*

Adapter Plate

No. 6005-E • (For 6005-G Mount & Spindle) *Lincoln V-12 Engine*

No. 6005 • *Lincoln 8EL and Ford 8EB & EQ Engines*

Note: For Transmission Mount & Spindle, see page 74. For Rear Axle Mount & Spindle, see page 22.

Replacer • Oil Pan Rear Packing • Engine No. 6007

This tool is essential to assure fast, leakproof installation of rear oil pan packings. Packing is furnished in a length longer than required for sealing and must be trimmed after installation. This trimming is very important as the packing must be trimmed exactly to a length (somewhat over the normal flush surface of the oil pan) to assure leakproof sealing. Too great a length will result in leakage thru buckling of the oil pan.

For duplicating factory method the tool has locating pilots and a precisely machined ring (simulating the crankshaft) that pushes and sizes the packing into place. Cut-off slots to mark packing length are provided for trim after packing is pressed into the oil pan recess. Sturdily made of high tensile manganese bronze and hardened steel, tool is brightly polished nickel plated for assurance of long life and usability. Elimination of one faulty packing replacement will more than pay for this tool as there is the possibility of getting oil in the clutch with the resultant labor and parts replacement. It is false economy in this critical operation to attempt packing installation by guesswork.

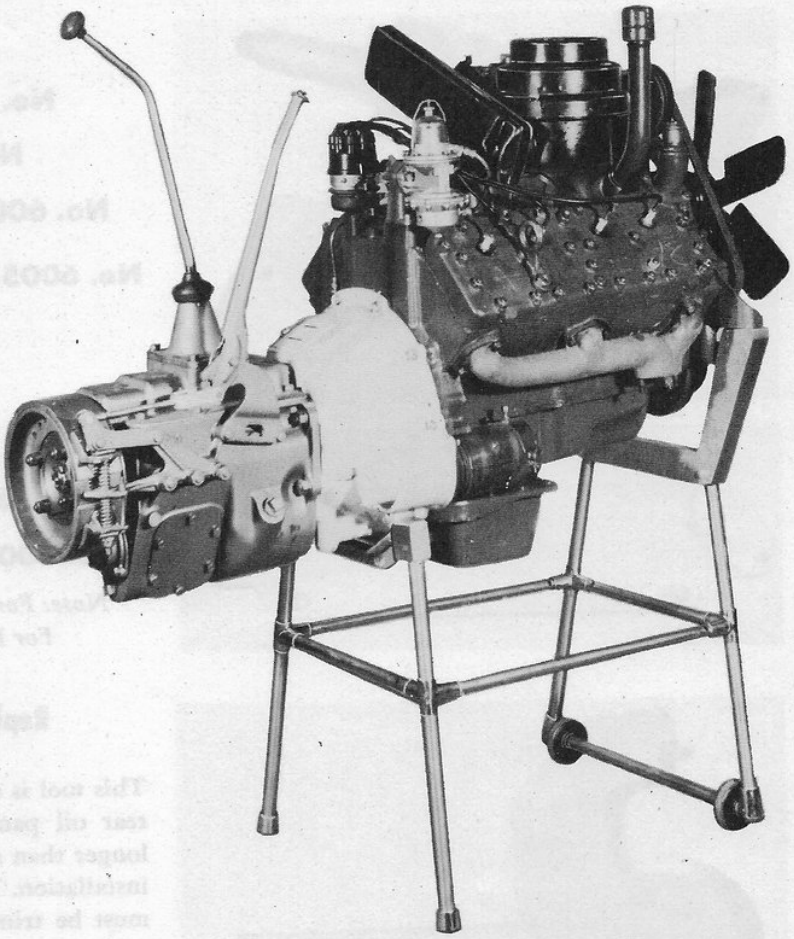
Wrench • Oil Filter • Bracket No. 6050-B

Especially designed and approved tool for torque wrench tightening of the bolts under oil filter and also cylinder head nuts. It enables you to tighten the cylinder head down evenly to eliminate gas and coolant leaks.

Manzel

BOOST BOTH SALES AND SERVICE

In salesroom or service department, you can point out engine features, show replacement engines, promote overhauls, or demonstrate causes of trouble. Bright, nickel plated tubing, attractive and sturdy. For complete engines or cylinder block and pan assemblies. Easily moved, taken apart, or assembled. Rubber wheels and rounded feet won't mar floors.



Manzel Display Stands For: Lincoln V-12, Mercury and Ford V-8 Engines

(1949 Mercury Excluded)

No. FLM-115

End Frames plus Standard Rear Mount; Lincoln Front Mount & 2 Side Rods and Ford-Mercury Front Mount & 2 Side Rods.

Lincoln 8EL and Ford 8EQ Engines
No. FL-115

Ford and Mercury V-8 Engines
(1949 Mercury Excluded)
No. FM-115

Lincoln V-12 Engine
No. L-115

Ford 6 Cylinder Engine
No. F-115

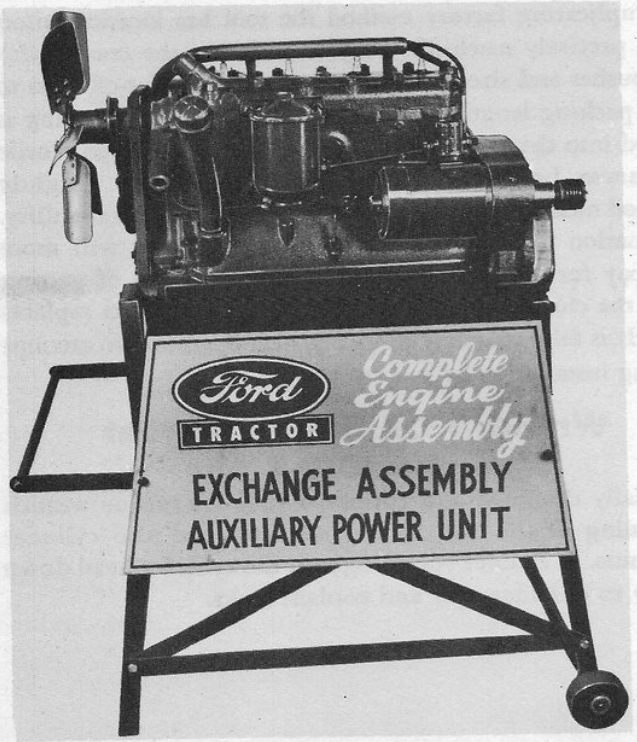
1949-1950 Mercury Engine Only
No. M-115

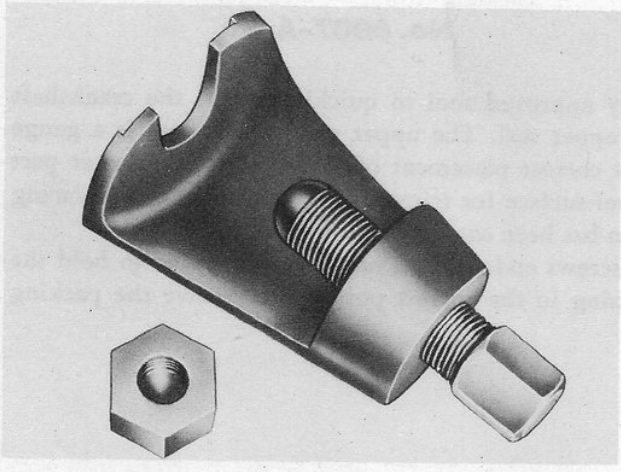
To Convert FM-115 to F-115 Display Stand
No. C-115-6

To Convert FLM-115 or FM-115 to M-115 Display Stand
No. C-115-M

Ford Tractor Engine
No. T-115

Display Cards for Ford Tractor Stand
No. T-115-DC





Remover • Distributor Drive Gear • Engine

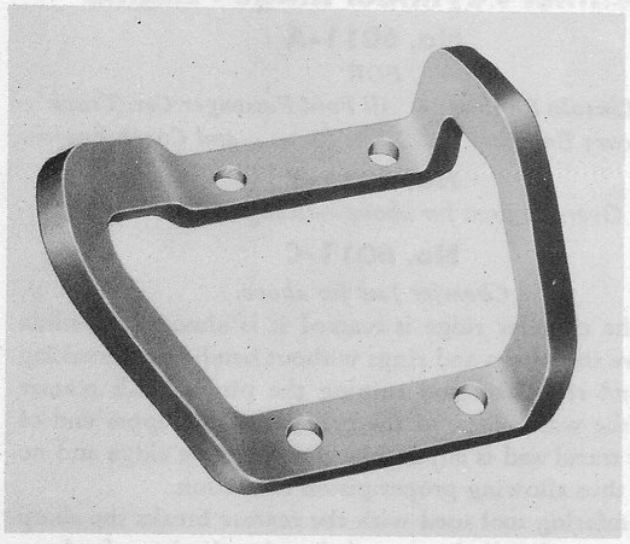
No. 3290-B

This heat treated tool pulls the distributor drive gears quickly. A specially designed tool body protects the jack screw thread during the pulling operation and keeps the screw in perfect alignment, performing its operations in a quick and effective manner.

Lifting Hook Assembly • Engine

No. 6000

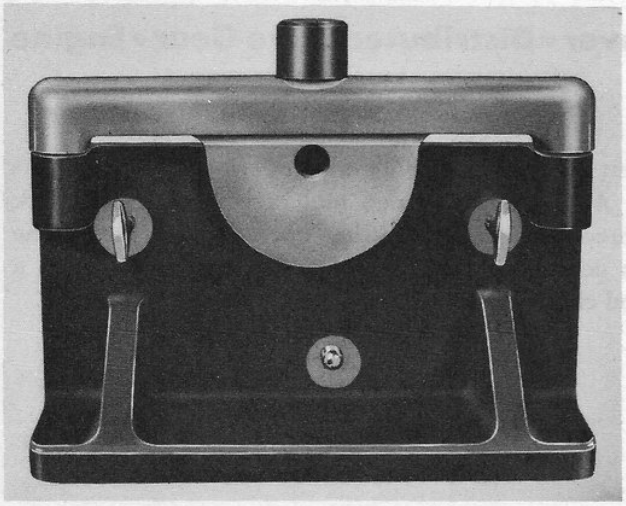
This well constructed chain hook assembly complete with lift brackets and special shouldering nuts is adaptable to all engines. Chain length (as per photo) is long enough to clear carburetor thus enabling the installation or removal of the complete engine from the car. The lift brackets have slotted holes to accommodate varying stud spacing. Lifting leg of bracket has 3 holes permitting chain hook adjustment for balance. (See 6000-A for 6 cylinder engines).



Lifting Hook • Engine

No. 6000-A

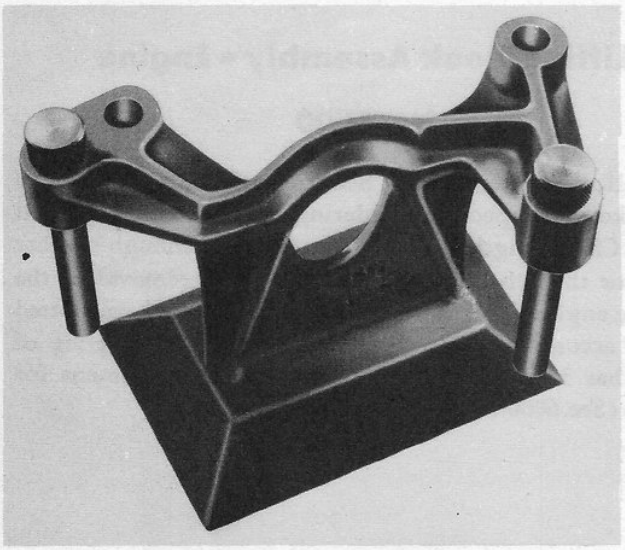
High strength alloy hook provides two points for picking up engine. This bracket attaches under four cylinder head cap screws (using special screws provided for full thread engagement). The proper position for the bracket is encircling the second spark plug from the rear (transmission) end of engine with the angle loop toward the front (manifold) side of the engine and the square loop near the engine center line. With the bracket mounted in this way, the engine may be lifted by the angle (off center loop) and will hang at the proper angle for installation in or removal from the 6 cylinder Ford Coach. When the engine is lifted by the square loop (on center) the engine will hang in a vertical position for ease in mounting on an engine repair stand, or in passenger car.



Replacer • Rear Crankshaft Bearing Upper Seal • Engine

No. 6007-A

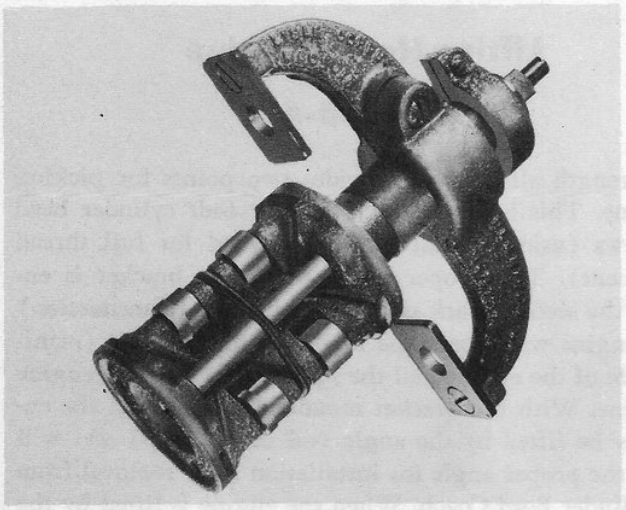
A factory approved tool to quickly replace the crankshaft bearing upper seal. The upper part of this tool is a gauge to insure correct placement of packing and the lower part has a level surface for trimming the seal after the replacing operation has been completed.
Thumb screws and a dowel have been provided to hold the seal housing in the correct position to receive the packing or seal.



Lifting Fixture • Engine

No. LM-6011

Fixture is made of manganese bronze and allows engine to be lifted or moved with the heads removed. This is accomplished by the two lips, opposite lifting hole, being placed under the water jacket web, then inserting the two knurled top pins, (provided with friction balls to prevent their falling out) into the outer holes (for Lincoln) or inner holes (for Ford and Mercury) and into water jacket openings. This prevents fixture from turning and dropping engine and is a real time and labor saver as it is not necessary to reinstall cylinder head cap screws as used to fasten the conventional lifting hook.



Reamer • Cylinder Ridge • Engine

No. 6011-A

FOR

All Lincoln Engines • All Ford Passenger Car, Truck
All Mercury Engines • and Coach Engines

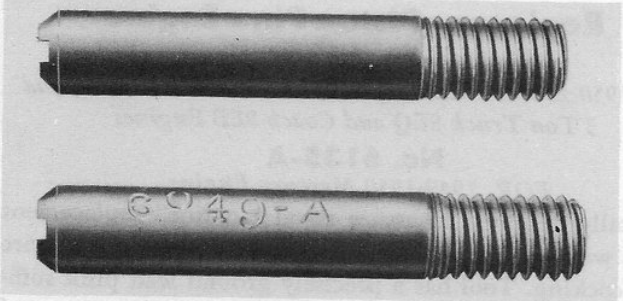
No. 6011-B

Oversize Jaws for above — Range 4" to 5"

No. 6011-C

Chamfer Jaw for above.

Unless the cylinder ridge is reamed it is almost impossible to remove the piston and rings without bending or breaking the second ring land and ruining the piston. This reamer follows the worn shape of the cylinder at the upper end of the ring travel and is adjustable to remove the ridge and no more — thus allowing proper piston extraction.
The chamfering tool used with the reamer breaks the sharp edge at top of cylinder permitting installation of piston rings quickly and without damage to hands.



Pilot Stud • Cylinder Head • Engine

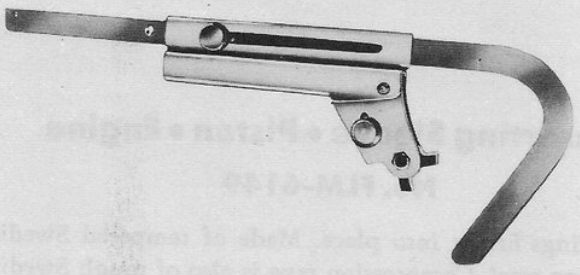
No. 6049-A

Cylinder heads can be quickly positioned on the block with these tools. Much time is saved in replacing attaching screws. A screw driver slot is provided for fast removal. Hardened to withstand wear. Supplied in sets of two. Better have several sets.

Hoist • Engine

No. 6050-A

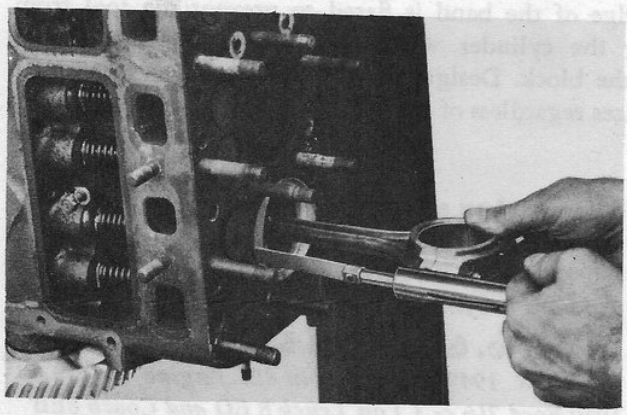
Hoist is made of manganese bronze and provides two points for picking up engine. Attaches to cylinder head without interference with spark plugs. Special nuts are provided to insure full grip on cylinder head studs. Hard bright nickel plated to resist corrosion.



Cleaner • Piston Ring Groove • Engine

No. LM-6110

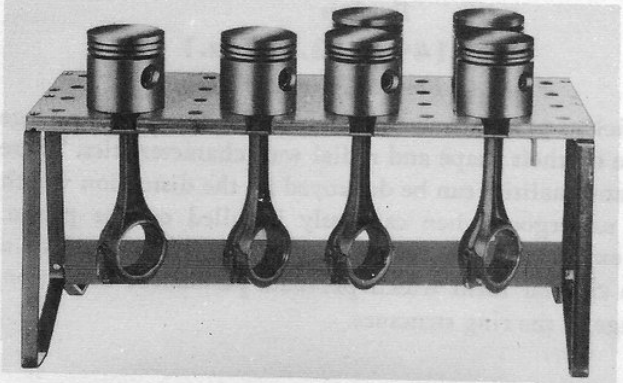
A universal tool quickly adjustable to any size piston up to 6 inches in diameter. The non-gouging, non-chattering action of the cutter permits a smooth, clean finish. Four cutter blades to handle 3/32", 1/8", 5/32", and 3/16" ring grooves.



Scale • Piston Pull • Engine

No. FLM-6110-A

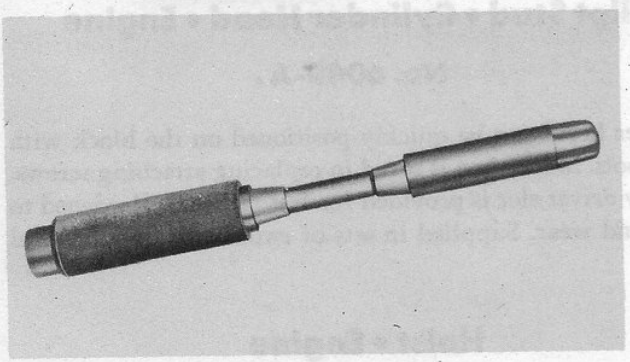
For fast, accurate and uniform piston fitting in cylinder bore according to factory specifications. Scale is graduated in 4 oz. increments to a 20 lb. pull and fitted with .0015", .002" and .003" thickness gauges which are gripped with a simple clamp. Sturdily made for long life, this tool is usable on all makes of engines.



Rack • Piston & Valve • Engine

No. 6110-A

This piston rack provides opening for 8 piston assemblies and 16 valves. Placed in rack as removed, parts are protected from injury and kept clean and orderly, so that they may be reinstalled easily.



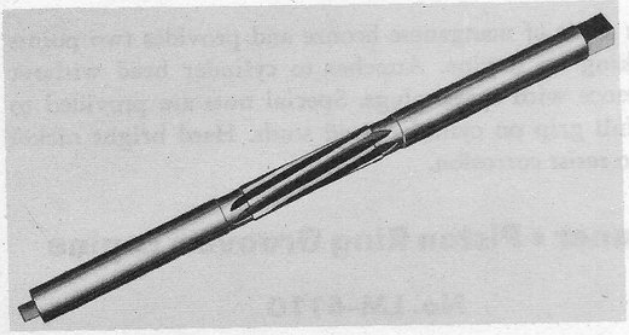
Replacer • Piston Pin • Engine
No. 6135

1949-1950 Lincoln 8EL Engine • 1948-1950 Ford 2½ and 3 Ton Truck 8EQ and Coach 8EB Engines

No. 6135-A

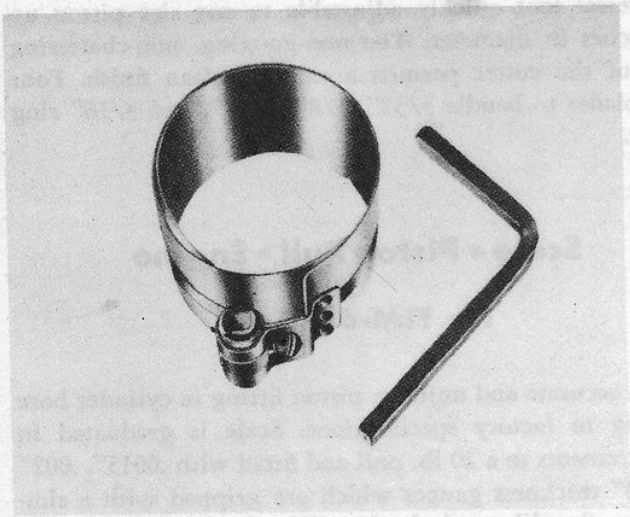
FOR 1949-1950 Mercury Engine

Specifically designed to assure rapid "in line" replacement of pins without damage or enlargement of piston pin bore due to cocking. Tool has a precisely ground lead pilot sufficiently long to engage far side of pin bore before entry of pin. Accurately machined and ground from heat treated alloy steel. Tool is cadmium plated for corrosion resistance.



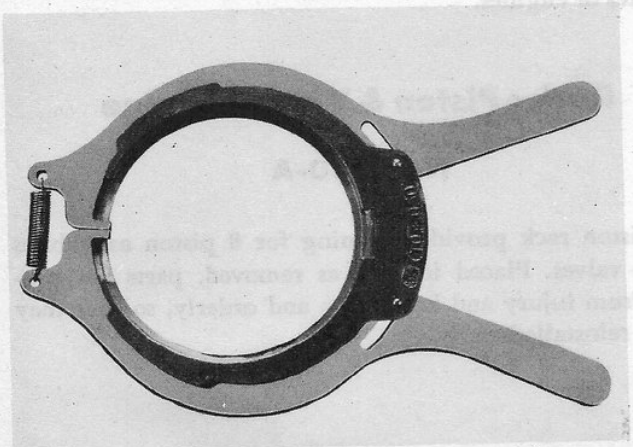
Reamer • Piston Pin • Engine
No. 6135-B

An expansion type, piloted, spiral toothed reamer made of cutter hard high speed steel. Pilot is long enough to pass thru one bushing and enter the other before actual cutting begins, assuring perfect and true line reaming. Spiral teeth assure long life with a minimum of sharpening required.



Inserting Sleeve • Piston • Engine
No. FLM-6149

Presses rings firmly into place. Made of tempered Swedish blue spring steel. Compression tape is also of tough Swedish steel. Short, removable L handle provides the power. The lower edge of the band is flared to prevent the tool from entering the cylinder when the piston is pushed down within the block. Design permits use of tool on almost all piston sizes regardless of make of passenger car or truck.



Expander • Piston Ring • Engine
No. 6149-2 (3.187" Dia.)

FOR All Mercury Engines

1946-1950 Ford 8 Cyl. Passenger Car & Truck V-8 Engines

No. 6149-3 (3.5" Dia.)

FOR 1949-1950 Lincoln 8EL Engine

1948-1950 Ford 2½ & 3 Ton Truck 8 EQ and Coach 8EB Engines

No. 6149-4 (3.3" Dia.)

FOR All Ford 6 Cylinder Engines

The efficient performance of piston rings depends in a large measure on their shape and radial wall characteristics. These important qualities can be destroyed by the distortion which a ring undergoes when carelessly installed on the piston. When expanded with this tool, the ring is confined to a definite circular form which prevents permanent distortion or change in the ring structure.

Compressor • Piston Ring • Engine

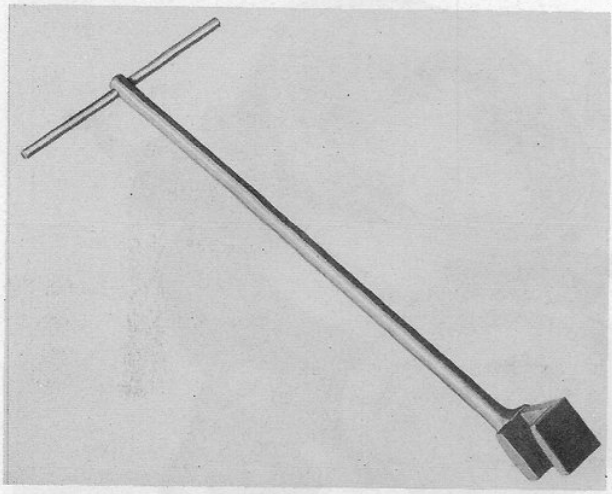
No. 6150

FOR
All Mercury Engines
Ford 6 & 8 Cylinder Passenger Car Engines

No. 6150-A

FOR
Lincoln 8EL Engines
Ford 8EQ Truck and 8EB Coach Engines

A funnel shaped tool to uniformly compress piston rings, for assembling piston and connecting rod assemblies in the engines. It is adjustable to both 6 & 8 Cylinder engine bore sizes. A real time saver and is factory approved.



Hook Tool • Connecting Rod • Engine

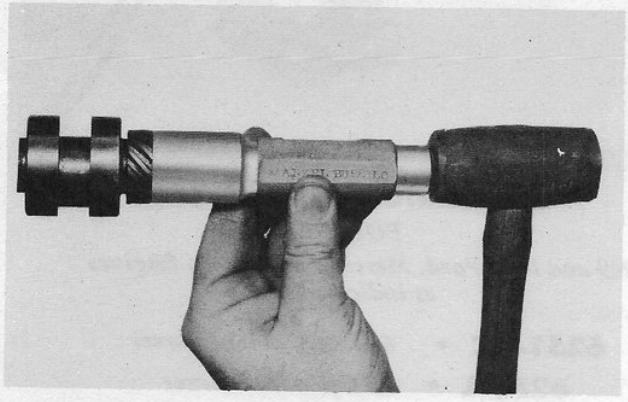
No. L-6200

FOR
1939-1948 Lincoln V-12 Engines • 1939-1948 Ford 8 Cylinder Passenger Car Engines
1939-1948 Mercury V-8 Engines

No. 6205

FOR
1949-1950 Lincoln 8EL Engine • 1948-1950 Ford 2½ and 3 Ton Truck 8EQ and Coach 8EB Engines

A time and knuckle saving tool for "pulling down" through the block, the assembled piston and connecting rod. Tool hooks onto bearing end of connecting rod. Use of this tool is not only time saving but also eliminates the need for screw drivers, wires or bars in guiding rod down to crankshaft, thus preserving polished bearing surfaces.



Replacer • Camshaft Oil Pump Gear • Engine

No. 6254-B

For fast trouble free replacement of gear and eccentric, try this tool. Made of heat treated steel, with knurled hand grip and reduced diameter knocker head. Counterbored to clear end of camshaft when replacing oil pump gear.

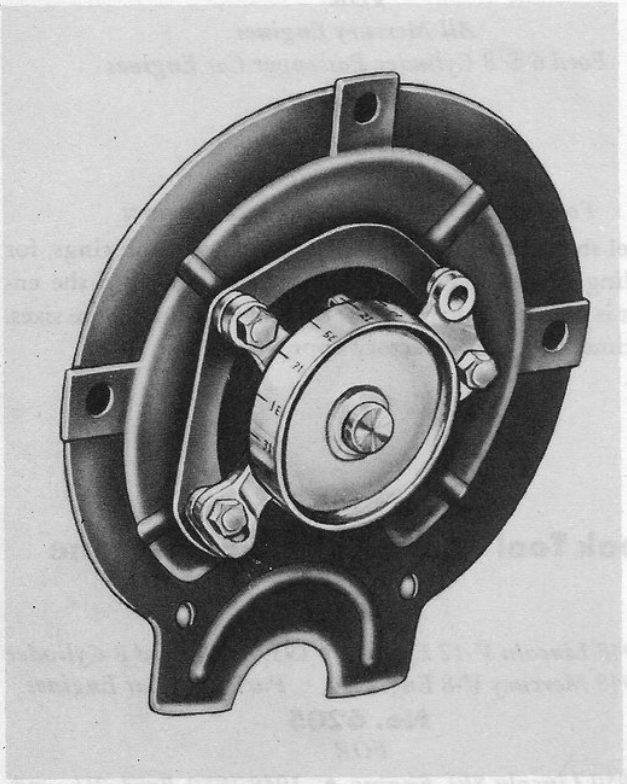
Manzel

Saves 1 to 2 Hours ... on Every Valve Job

Indexer • Valve Clearance • Engine

Indicates the Exact location of the lowest portion radially of each cam of the camshaft: Enables any mechanic to easily and positively hold the exact and proper degrees of the opening and closing of both exhaust and intake valves in every cylinder. By providing the proper location for exact clearance settings, it prevents delayed or premature opening and closing of one or more valves and insures a correct, smooth-running job with a saving of one to two hours on every valve job. Can be used on fixed or adjustable tappets with engine in or out of chassis in any stage of assembly.

Available in two types — block mounting for earlier model cars and distributor mounting for the '49 Ford, Mercury and Lincoln. Each type can be used with corresponding drums which provide extra indexing for 4, 6, 8 or 12 cylinder engines.



Block Mounting

FOR

Ford, Mercury & Lincoln Engines up to and including 1948 as indicated

6251-A • *8 Cylinder Indexer*

6251-B • *4 Cylinder Indexer*

6251-C • *6 Cylinder Indexer*

6251-D • *12 Cylinder Indexer*

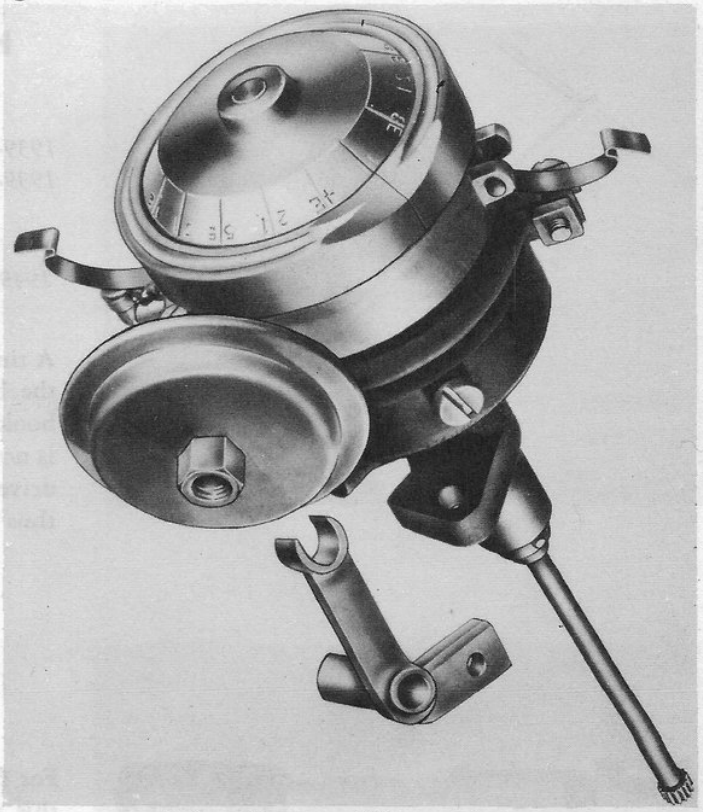
6251-J • *4, 6, 8, & 12 Cylinder Indexer*

6251-E • *Drum Only* • *8 Cylinder Indexer*

6251-F • *Drum Only* • *4 Cylinder Indexer*

6251-G • *Drum Only* • *6 Cylinder Indexer*

6251-H • *Drum Only* • *12 Cylinder Indexer*



Distributor Mounting

FOR

1949 and later Ford, Mercury or Lincoln Engines as indicated

6251-AC • *6 & 8 Cylinder Indexer*

6251-L • *8 Cylinder Indexer*

6251-K • *6 Cylinder Indexer*

6251-AA • *Drum Only* • *8 Cylinder Indexer*

6251-AB • *Drum Only* • *6 Cylinder Indexer*

Remover • Drive Gears • Engine
No. 6254-C

FOR FUEL PUMP DRIVE ECCENTRIC

1949-1950 Lincoln 8EL Engine
1948-1950 Ford 2½ & 3 Ton Truck and Coach 8EB Engines

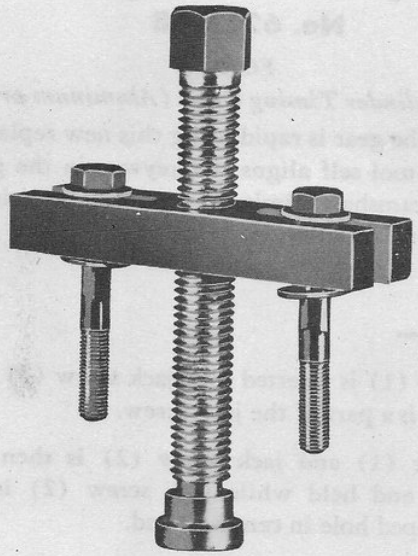
FOR OIL PUMP DRIVING GEAR

1939-1950 Lincoln Engines • 1939-1950 Mercury Engines
All Ford 8 Cylinder Passenger Car, Truck & Coach Engines

FOR DISTRIBUTOR DRIVE GEAR

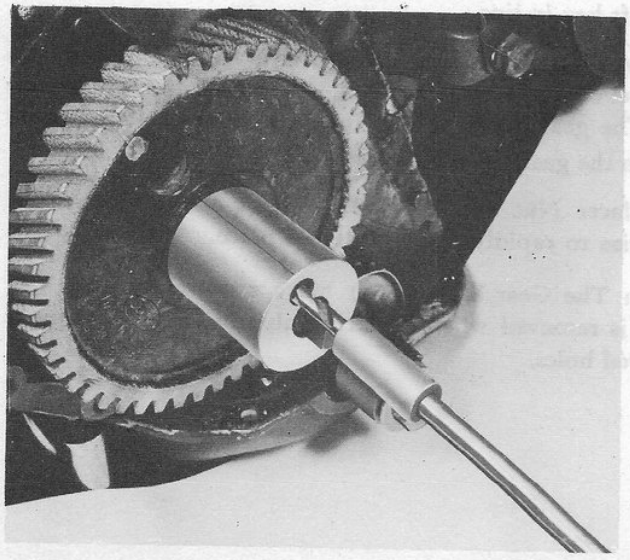
All Mercury Engines
All Ford 8 Cylinder Passenger Car Engines

An essential multi-purpose tool that does a fast job of gear removal without damage to parts. Body is a heat treated steel forging with accurately machined pulling lips that will fit between eccentric and gear or gear and camshaft. Has large protruding ear for clamping in vise. Jack screw has floating pilot to minimize friction and galling of camshaft end.



Remover • Timing Gear • Alum
No. 6256-A

A very handy tool for pulling aluminum timing gears. Equipped with sliding screws to fit the tapped holes in the gear, this tool quickly removes the gear with a wrench application on the jack screw.

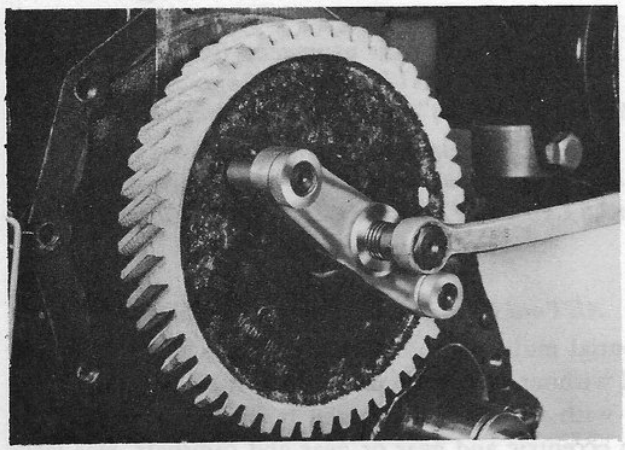


Drill Fixture and Extension Drill
No. 6256-AA

FOR

The hardened steel drill fixture when attached to the camshaft, accurately locates drilled hole in proper relation to camshaft and gear. No danger of misaligned drilling damaging the camshaft and requiring complete engine disassembly. The high speed drill is held in the extension which serves as a depth stop and permits drilling to be done thru the front grill. (Radiator removed.)

NOTE: Attempting removal of gear without properly locating and drilling relief hole thru the steel hub with tool 6256-AA will invariably result in breaking of the gear necessitating removal of engine and camshaft to remove the remaining gear hub.

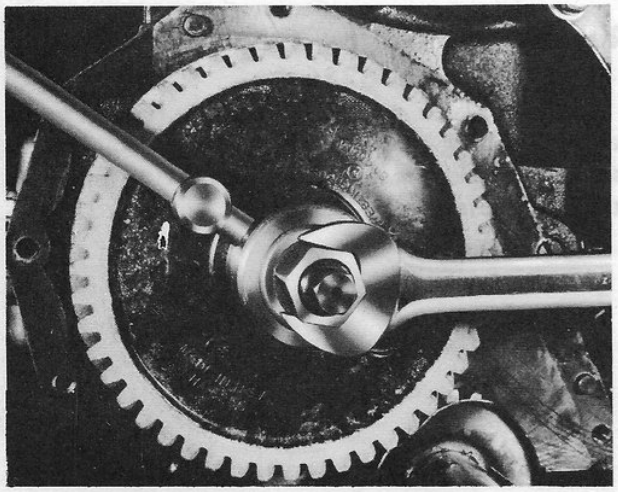


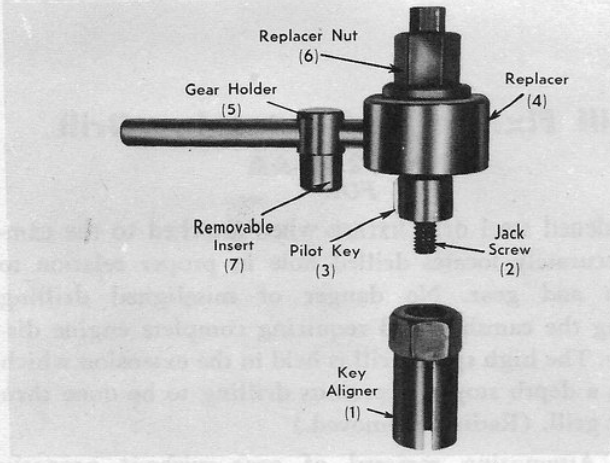
Remover • Timing Gear
No. 6256-AB

FOR

Ford Passenger Car 6 Cylinder Fibre Timing Gear
Ford 1950 Truck and Bus 6 Cyl. Aluminum Timing Gear

Broad protruding lips on the pulling legs are readily inserted thru the cored holes in the fibre gear. The leg with the knurled cap is rotated by finger 180° to give equal bearing behind the gear. A few turns of the jack screw with a 5/8" wrench and the fibre gear is off undamaged (except for drilled relief hole) and in condition for factory inspection.





Replacer • Timing Gear
No. 6256-BB

FOR

All Ford 6 Cylinder Timing Gears (Aluminum or Fibre)

Installation of the gear is rapid using this new replacer. Most important, the tool self aligns the keyway in the gear with the key in the camshaft eliminating possible shearing of key or keyway during installation.

In Use: —

1. Key Aligner (1) is inserted over jack screw (2) and pilot key (3) which is a part of the jack screw.

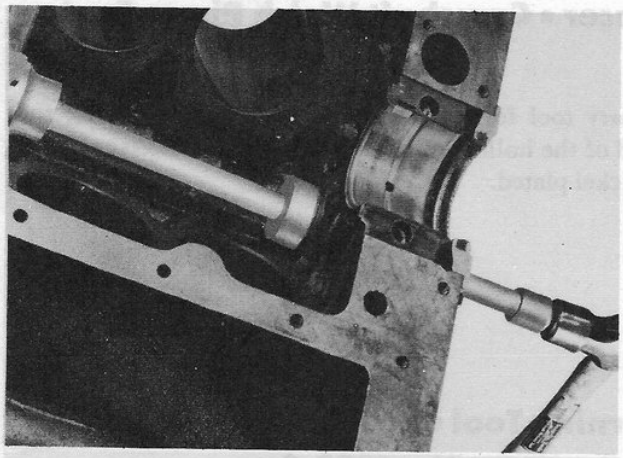
2. Key Aligner (1) and jack screw (2) is then installed over camshaft and held while jack screw (2) is screwed tightly into tapped hole in camshaft end.

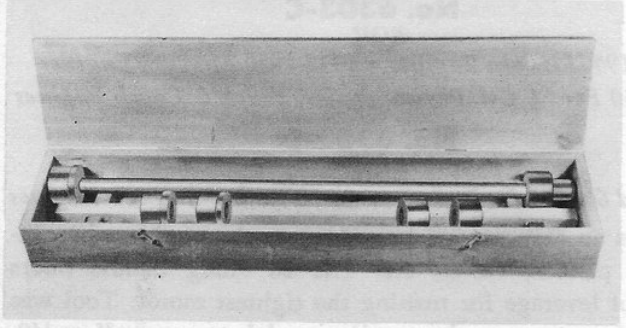
3. Key Aligner (1) is removed leaving pilot key (3) and camshaft key in line.

4. New Timing Gear is installed over pilot key (3) and replacer (4) inserted over jack screw bearing against the gear. The gear holder (5) is inserted into one of the cored holes in the gear. (See Note).

5. Replacer Nut (6) is added to jack screw and turned clockwise to rapidly press gear into place.

NOTE: The Gear Holder (5) has a removable insert (7) which is removed when replacing aluminum gears without the cored holes.





Remover & Replacer • Camshaft Bearings • Engine

No. 6261-B

FOR

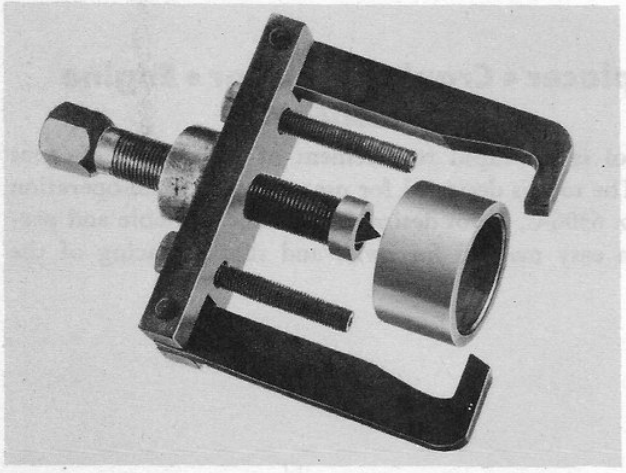
All Lincoln Engines • All Mercury Engines
All Ford 6 & 8 Cyl. Passenger Car, Truck and Coach Engines

Factory approved method for replacement of camshaft bearings, making operation a matter of minutes. Shaft, three driver heads and pilot bushings are hardened steel accurately ground to fit bearings. Knocker head is bronze. Ground surfaces are oiled and tool is nickel plated for protection against corrosion. Packed in substantial, varnished wooden case.

No. 6261-A

FOR Ford 6 Cylinder Engines only

Provides for 6 cylinder coach work where a universal feature is not needed. Set may be completed later.



Remover & Replacer • Camshaft Thrust Collar • Engine

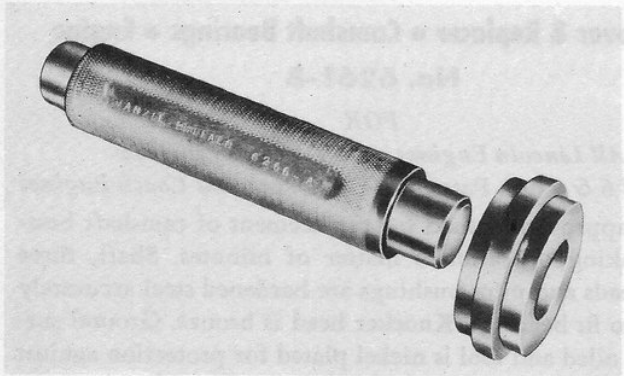
No. 6264

A rugged and convenient dual-purpose tool. Pulls the timing gear hub off the camshaft to permit replacement of the bronze thrust collar. Also used as a replacer by engaging hooks back of front main camshaft bearing and placing cap over timing gear and hub.

Replacer • Camshaft Welch Plug • Engine

No. 6266

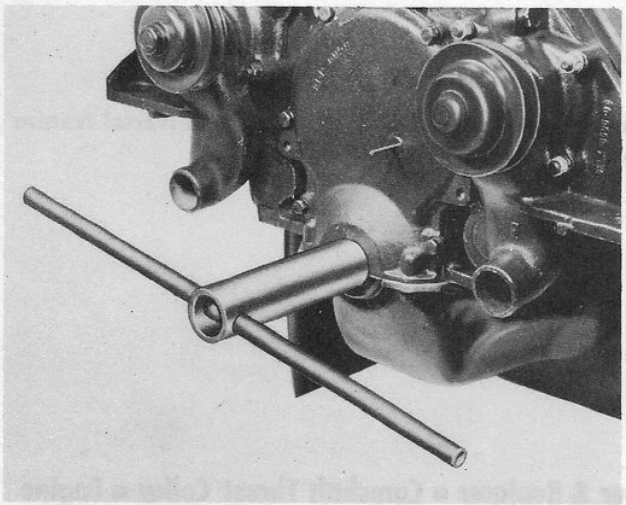
A necessary tool for replacing the plug sealing the front end of the camshaft hole to prevent oil leakage. Cadmium plated.



Replacer • Camshaft Welch Plug • Engine

No. 6266-A

A necessary tool for replacing the Welch Plug sealing the front end of the hollow camshaft to prevent oil leakage. Hard bright nickel plated.



Turning Tool • Crankshaft • Engine

No. 6303-C

FOR

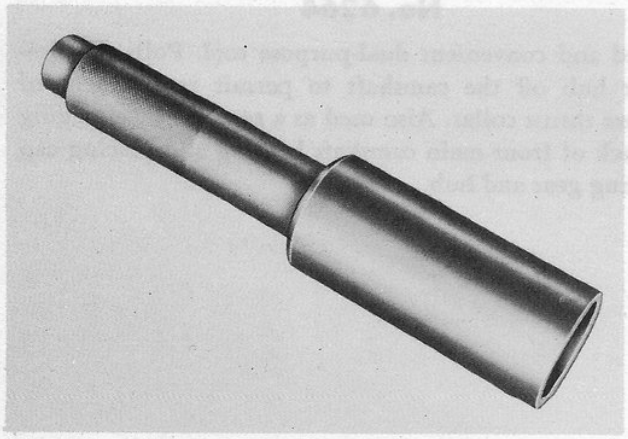
1939-1950 Lincoln Engines • 1939-1950 Mercury Engines
1939-1950 Ford 8 Cyl. Passenger Car, Truck & Coach Engines

No. 6303-D

FOR

All Ford 6 Cylinder Passenger Car, Truck and Coach Engines

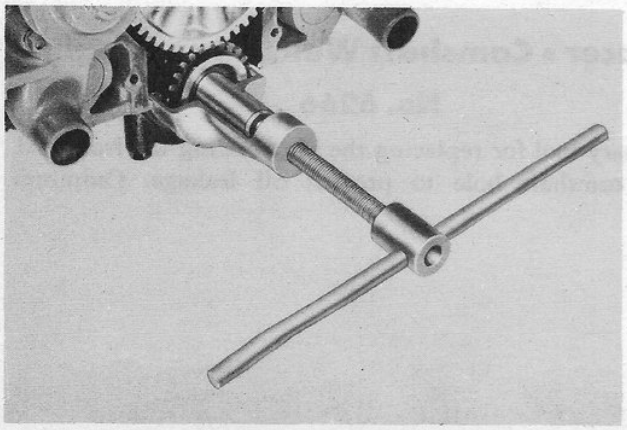
Provides an easy way of turning over the engine when installing pistons, valves, etc. The 20″ long handle offers plenty of leverage for turning the tightest motor. Tool was designed to accommodate earlier model cars as well as '49. **A real time saver** on overhaul jobs.



Replacer • Crankshaft Gear • Engine

No. 6306-A

This tool is for rapid replacement of the crankshaft gear alone. The tool is designed for use where the dual-operation tool, No. 6306-C, is not desirable or is not available and provides an easy method for swift and sure replacing of the gear.

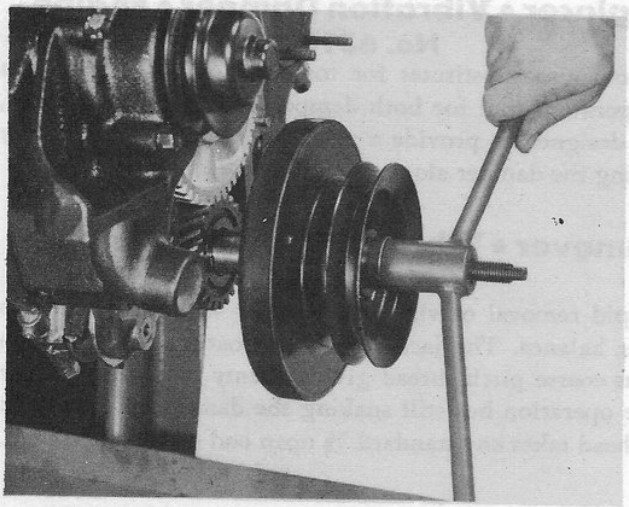


Remover • Crankshaft Gear • Engine

No. 6306-H (Handle)

No. 6306-AB (Hex Head)

A specially designed tool for a fast job of gear removal. Body of heat treated nickel alloy steel. Jack screw with floating pilot and long handles assures plenty of leverage to remove the tightest gear. Available with integral handle or hex head shaft for confined-space area use when engine is in chassis.



Replacer • Crankshaft Gear & Damper • Engine

No. 6306-C (Handle) • No. 6306-K (Hex Head)

FOR

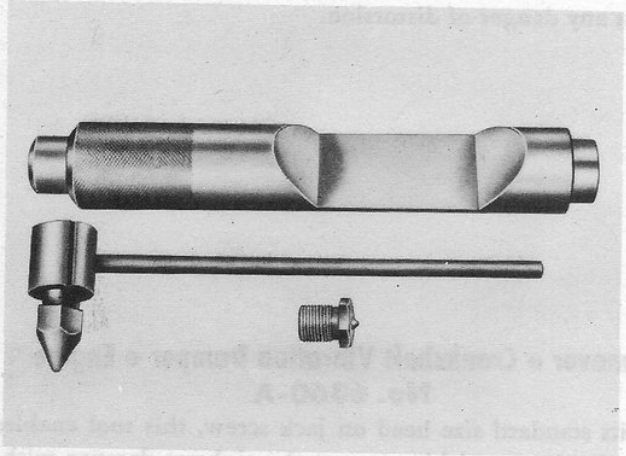
1949-1950 Lincoln 8EL Engine • 1949-1950 Ford 8 Cyl. Passenger Car • 1949-1950 Mercury V-8 Engine • and 1948-1950 Truck & Coach Engines

No. 6306-J (Handle) • No. 6306-AA (Hex Head)

FOR

All Ford 6 Cylinder Passenger Car, Truck and Coach Engines

A dual purpose tool that rapidly replaces crankshaft gear and damper without damage to gear, damper or cranksnaft. In use the jack screw is screwed into the end of the crankshaft, thru collar and gear. The wing nut is added to the screw and with little effort will press gear into place. Spin off wing nut, remove collar, add damper, replace wing nut and press damper in place. This hard nickel plated tool has a thrust bearing on the end of the wing nut to eliminate friction and damage to damper by scuffing. Tool is available with integral handle or with hex head shaft for confined-space area use when engine is in chassis.



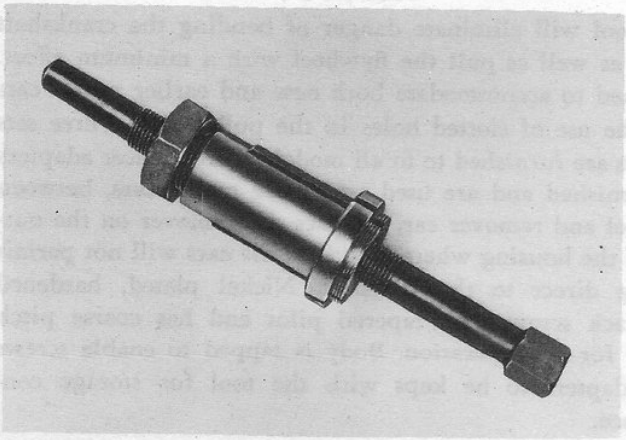
Expander & Drift Set • Welch Plug • Engine

No. 6307-A

On major overhaul, plugs should be removed and crankshaft porting cleaned. Failure to do this can only result in improper oil pressure to wear parts.

This three-piece tool will efficiently expand the Welch Plugs into the counterbore. To use, insert plug into counterbore. Place tool with sliding outside collar extended into counterbore to assist line-up; turn hex driver with a wrench in a counterclockwise direction to expand plug by bearing on the opposite counterbalance. Two hex drivers of different lengths are furnished to accommodate the different gaps between counterbalance and Welch Plug counterbores. A straight driver with cutaway section is furnished for use on end Welch Plugs.

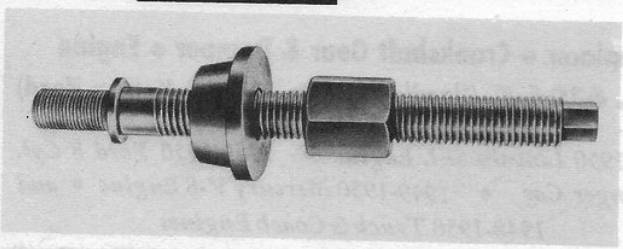
NOTE: — On replacement of Welch Plugs be sure proper size plug is used as there are more than one size (see listing in Lincoln parts manual) and outside diameters vary only slightly.



Remover • Crankshaft Pulley • Engine

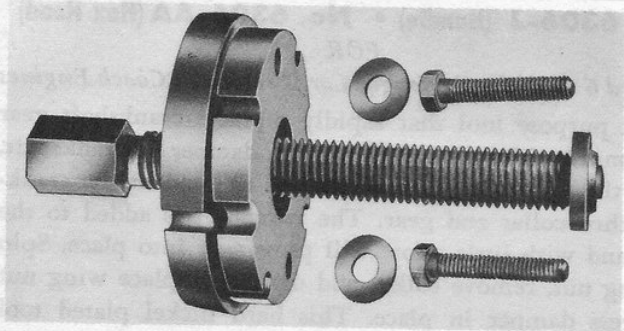
No. 6312-J

A new desirable and factory approved tool for removing the crankshaft pulley. This is a screw action tool which grips the pulley inside the hub and removes it by applying pressure against the end of the crankshaft. A time saver and a "must." Hard bright nickel plated to resist corrosion.



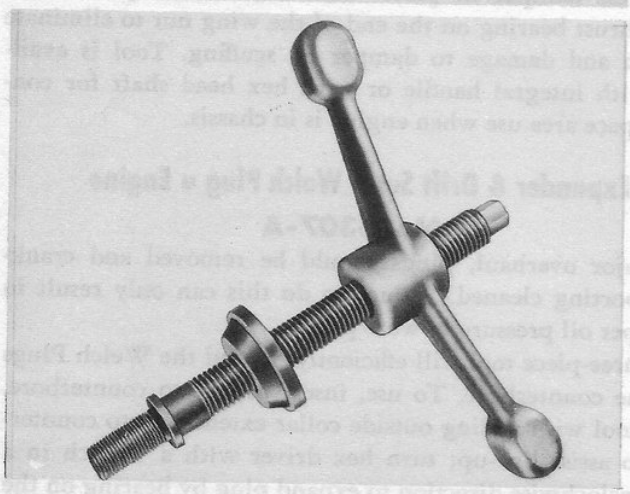
Replacer • Vibration Damper • Engine
No. 6316-C

This tool also substitutes for tool No. 6306-C which is a dual-operation tool for both damper and gear replacement, and is designed to provide a means of rapidly and correctly replacing the damper alone.



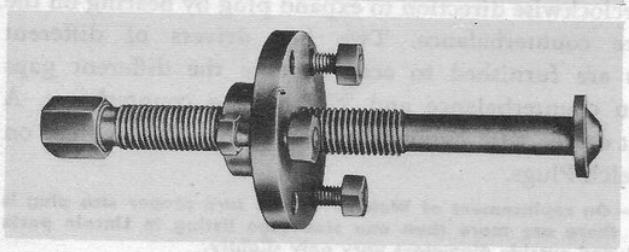
Remover • Vibration Damper • Engine
No. 6316-F

For rapid removal of vibration damper without damage to damper balance. The jack screw has floating thrust button and has coarse pitch thread giving plenty of pulling power for the operation but still snaking the damper off fast. Jack screw head takes any standard 7/8 open end or socket wrench.



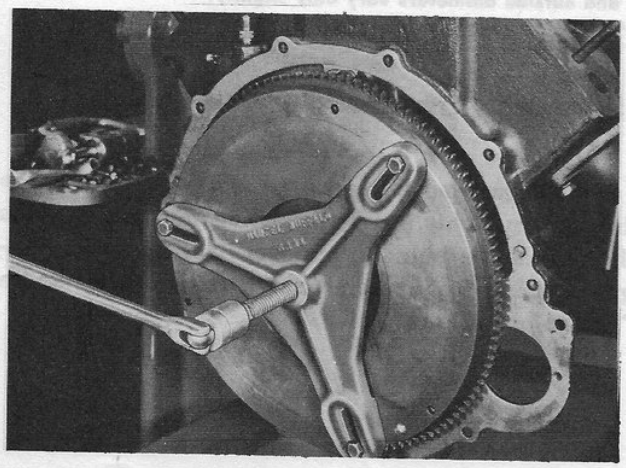
Replacer • Crankshaft Vibration Damper • Engine
No. 6360

This tool with its hardened pilot and large handscrew enables the mechanic to quickly replace the vibration damper without any danger of distortion.



Remover • Crankshaft Vibration Damper • Engine
No. 6360-A

With its standard size head on jack screw, this tool enables the mechanic to quickly remove the tightest damper without possibility of damage.



Remover • Flywheel • Engine
No. 6384

This tool will eliminate danger of bending the crankshaft flange as well as pull the flywheel with a minimum effort. Designed to accommodate both new and earlier model cars thru the use of slotted holes in the puller ears. Three sets of bolts are furnished to fit all models. Three spacer adapters are furnished and are used on earlier model cars, between flywheel and remover ear, to space the remover on the outside of the housing where length of the ears will not permit bolting direct to the flywheel. Nickel plated, hardened steel jack screw with tapered pilot end has coarse pitch thread for fast operation. Body is tapped to enable screws and adapters to be kept with the tool for storage convenience.

Remover • Flywheel Dowel • Engine

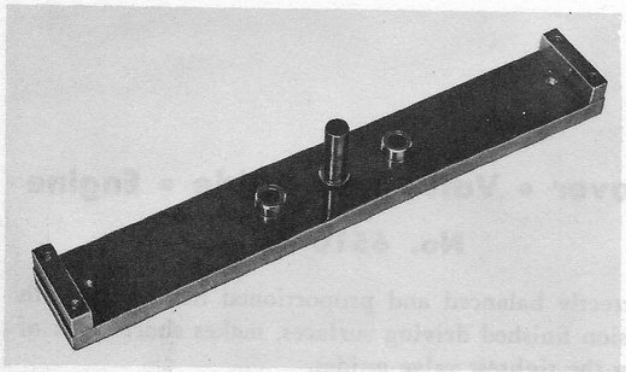
No. 6387

For 5/16" Dowel

No. 6387-AA

For 3/8" Dowel used on Hydramatic Equipped Cars

On the 1949-1950 Lincolns, it is almost impossible to remove the flywheel without first removing the dowel. With this hardened, nickel plated tool, an ordinarily time consuming, tedious operation is quickly completed. All that is necessary, is to screw the center screw onto the threaded dowel pin, then a standard wrench on the large hex nut, and the dowel pin is eased right out of the flywheel.

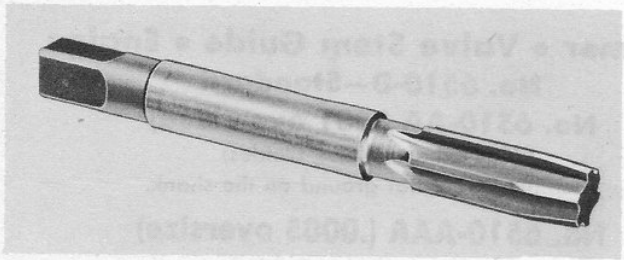


Reaming Fixture • Flywheel • Engine

No. 6387-D

Upon assemblying a flywheel reamed for 3/8" diameter dowels on a crankshaft sized for 5/16" diameter dowels, it is necessary to first line ream the crankshaft dowel holes to mate. A precise and tight fit must be maintained and this fixture together with special Reamer 6387-E assures maintenance of factory methods of accuracy and fit.

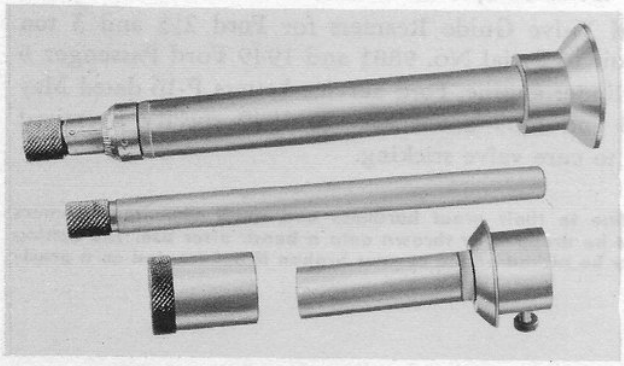
In use, the fixture is loosely mounted on the flywheel with 5/16" bolts on the outer bolt circle with drill bushings approximately in line with dowel holes on the inner bolt circle. The two step type alignment pilots (not shown in photo) are inserted thru the hardened drill bushings into flywheel and crankshaft. With pilots in place, the two outer bolts are tightened and the bolts holding flywheel to crankshaft are drawn up securely. You are now ready to line ream with Special Taper Lead Reamer No. 6387-E. (see recent issued Lincoln-Mercury Service Letter)



Reamer • Flywheel

No. 6387-E

A hand reamer with taper lead for line reaming 5/16" dowel holes in flywheel or crankshaft to accommodate 3/8" dowels. It is necessary to use this reamer with 6387-D Fixture to assure straight and accurate fit of flywheel to crankshaft.



Gauge (Micrometer) • Valve Setting • Engine

No. LM-6505-A

This tool eliminates guesswork and makes fitting valves much more profitable and accurate. In using a thickness gauge, the mechanic never knows just when he has the proper clearance due to the possibility of kinks or buckles in the thickness gauge, whereas, the micrometer is always accurate to a fraction of a thousandths. Full instructions for use packed with every gauge.

Press • Valve Assembly • Engine

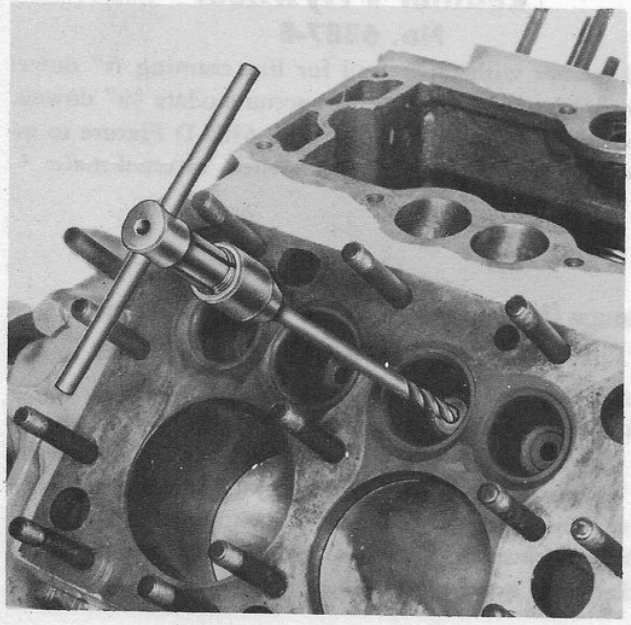
No. 6505-C

This "bench type" tool, enables the mechanic to quickly and easily assemble or disassemble the valve assembly. Labor savings effected by the use of this tool, on the first few valve jobs, more than pays for it.

Remover • Valve Stem Guide • Engine

No. 6510-B

This correctly balanced and proportioned hand tool, with its precision finished driving surfaces, makes short work of removing the tightest valve guides.



Reamer • Valve Stem Guide • Engine

No. 6510-D—Standard

No. 6510-AA (.001 oversized)

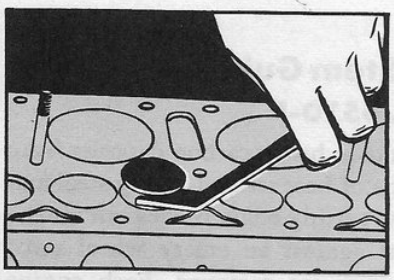
(For Exhaust Valve Guides)
Identified by a flat ground on the shank.

No. 6510-AAA (.0005 oversize)

(For Intake Valve Guides)
Identified by a flat and a dot on the shank

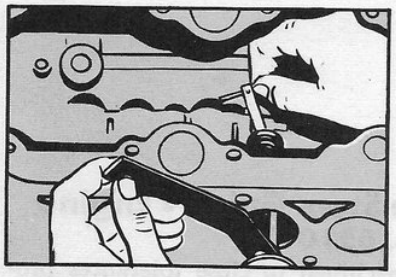
Oversized Valve Guide Reamers for Ford 2½ and 3 ton 8 EQ proir to Serial No. 9801 and 1949 Ford Passenger 6 and 8 cylinder engine. Ford Service Letters P-16 dated May 21, 1948 and P-59 dated May 3, 1949 specify oversized reaming to cure valve sticking.

***Note:* — Due to their great hardness and small diameter, reamers should not be dropped or thrown onto a bench after use. The cutting edges may be nicked or the reamer broken if not treated as a precision tool.**



1

Turn crankshaft to raise valve. Lift valve with pry bar, fully compressing spring.

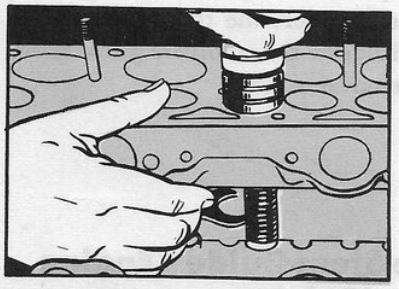


2

Place wedge between valve lifter and valve stem keeping spring compressed.

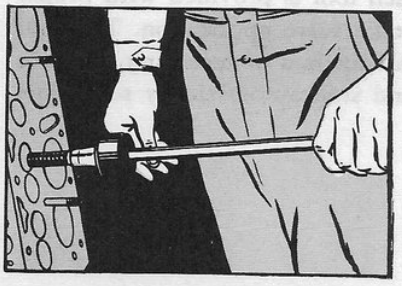
3

Insert collet sections around valve head, slide collar down to hold collets. Remove wedge.



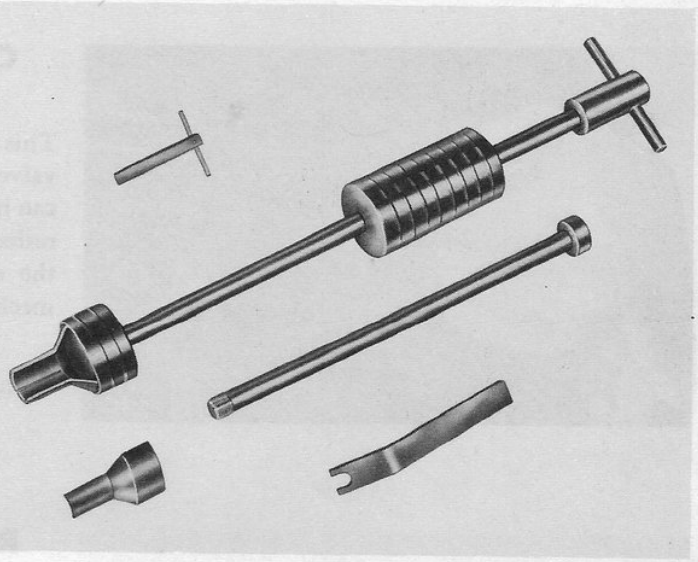
4

Drive guide down and remove keeper with fingers.



5

With keeper removed snap out complete assembly with slide hammer.



Remover • Valve Assembly • Engine

(Furnished with 8 & 12 Cyl. Collets Only)

No. 6510-BB

FOR

All Mercury Engines (Int. & Exh.)
Ford 4 Cylinder and 8EB & 8EQ Engines (Exh.)
Ford 8 Cylinder Passenger Car Engines (Int. & Exh.)
All Lincoln Engines (Exh.)

A specially designed tool to quickly and efficiently remove the valve assembly without damage. Saves hours by bringing out even the toughest assemblies. Its sliding hammer provides any degree of pull required for valve assembly removal without exerting pressure on or injury to the block. Simple to use and rapid in action.

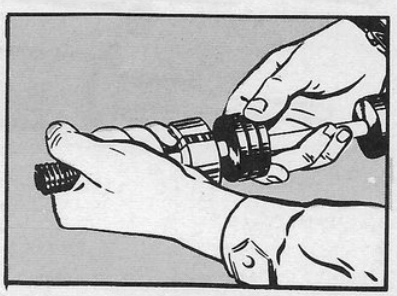
Collets Only

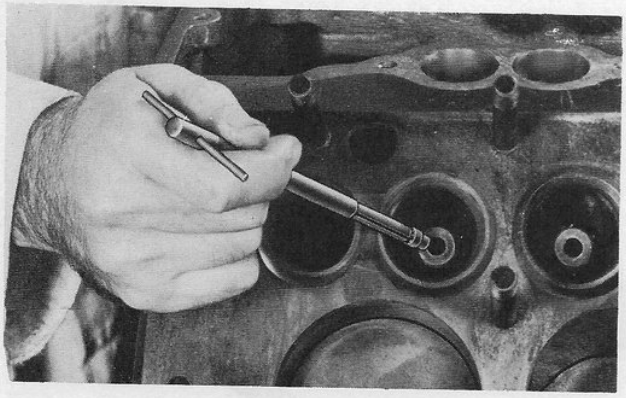
No. 6510-BB-1 • *For 8 & 12 Cyl.*

No. 6510-BB-2 • *For 6 Cyl. 1937-1948 Ford*

6

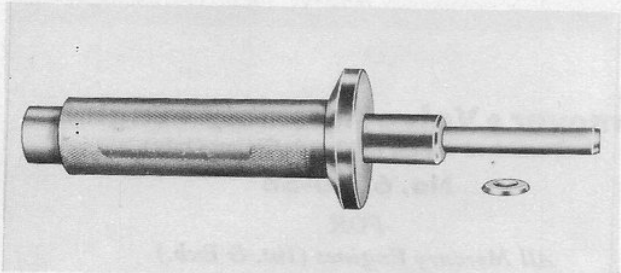
Slide end cap up from cone sections and valve assembly will spring free from tool.





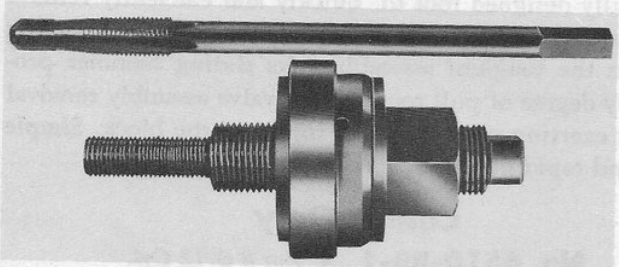
Cleaner • Valve Stem Guide • Engine
No. 6510-F

This tool will remove and loosen heavy carbon deposits from valve guides. Blades are made of heat treated spring steel and can be reversed giving a new cutting edge. Blades can also be resharpened by holding flat against an emery wheel until the rounded and worn corners are removed. Each engine mechanic should be equipped with one.



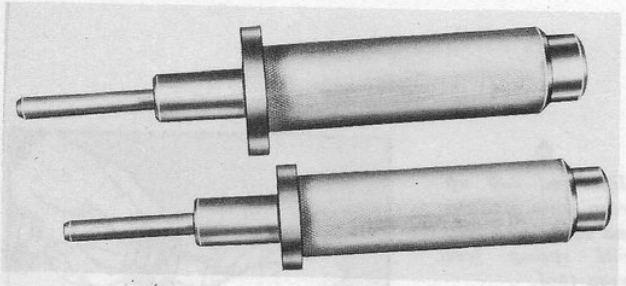
Replacer • Valve Stem Guide • Engine
No. 6510-J

High strength steel tool machined to close tolerances provides an easy and fast method of installing all valve stem guides to the correct depth. Shoulder machined integral with stop automatically sets exhaust guides to specified depth. Separate thin spacer is added to seat intake guides to the proper depth. For all Ford 6 cylinder engines.



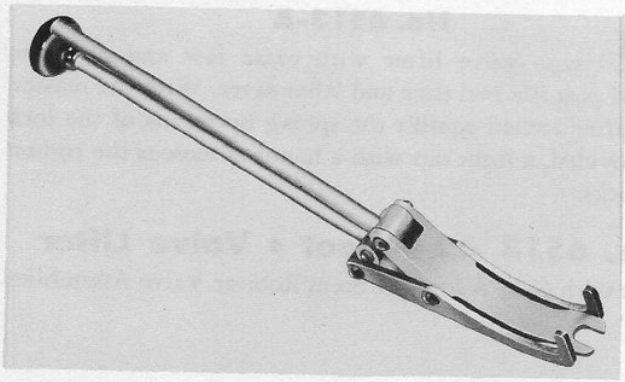
Remover • Valve Stem Guide • Engine
No. 6510-K

This tool removes valve stem, guides smoothly and easily. Provided with a top of proper size, it is only necessary to quickly thread the guide body, insert the threaded portion of the remover and easily withdraw the complete guide with a few quick turns of the remover screw.



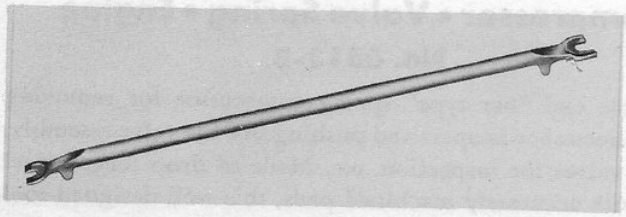
Replacer • Valve Stem Guide • Engine
No. 6510-L

Two precision machined tools for exhaust and intake valve stem guide replacement. Each tool is provided with proper marking for exhaust or intake valve application. Together they provide an easy and fast method of installing all valve stem guides, as shoulder and stop automatically set guides to specified depth.



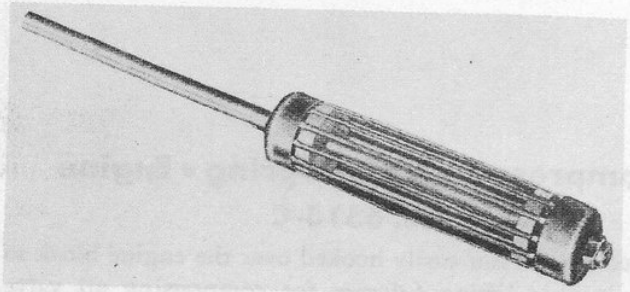
Remover & Lifter • Valve & Valve Stem Guide • Engine
No. 6512

Removal of valve guide retainers on Ford, Lincoln or Mercury engines, is a time consuming job without the proper tool. This tool with its long handles supplies plenty of power to the properly designed fingers and jaws, enabling the mechanic to remove the valve assembly quickly and easily. A time saving tool, even when used on the stiffest of valve springs.



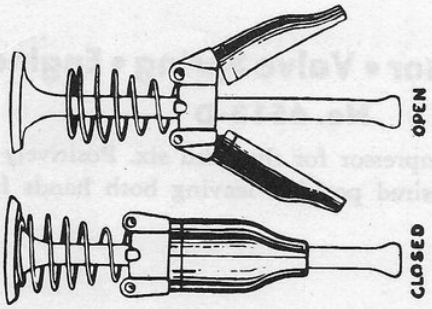
Remover • Valve Stem Guide • Engine
No. LM-6512-A

This bar, 30″ long, made of tough, forged steel with openings of proper size and shape, and fulcrum pads properly placed for greatest leverage, provides a quick labor saving method for removing the tightest guides.



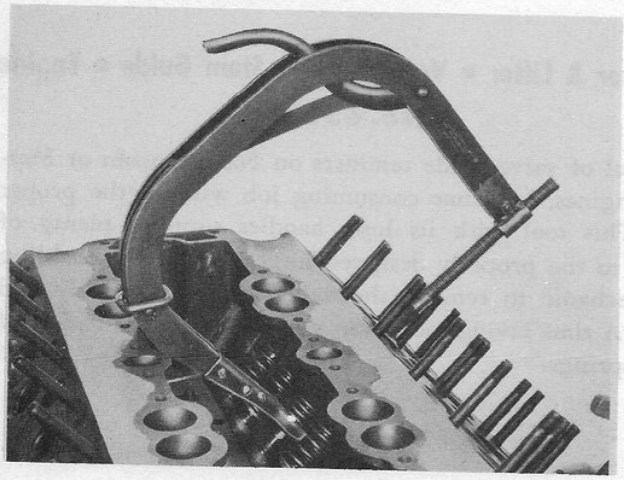
Cleaner • Valve Guide • Engine
No. LM-6512-B

An excellent tool for removing carbon deposits from valve guides. Self cleaning and equipped with reversible blades so full use can be made of both cutting edges. The cleaner removes no metal and can be expanded to required size simply by turning nut on end of tool. (Diameter of adjusted blade surface should be 1/16″ larger than diameter of valve stem.)



Bushing • Valve Grinding • Engine
No. LM-6512-C

An accurately machined, hinged, one-piece bushing. Valve slips into opened bushing and is held correctly when closed. Used when grinding valves, also in place of guides when establishing stem-to-tappet clearance. Jumper spring attached.

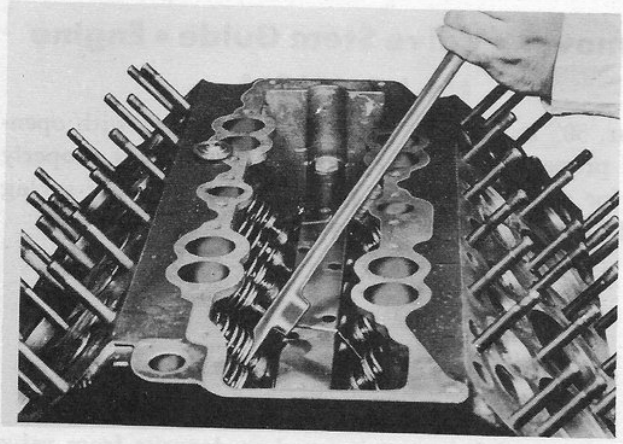


Lifter • Valve • Engine
No. 6513-A

This "C" type valve lifter with extra jaw and anvil on threaded post is a real time and labor saver. With the tension of the lifter locked against the spring by means of the lock ring provided, a light tap with a hammer loosens the tighest valve locks.

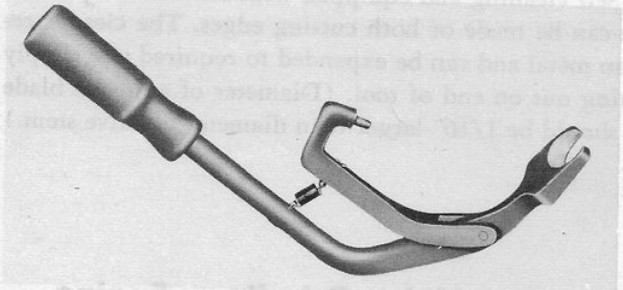
No. 6513 A2 — Foot • Valve Lifter

For use with 6513-A for Free Stem Rotator Valve Assemblies.



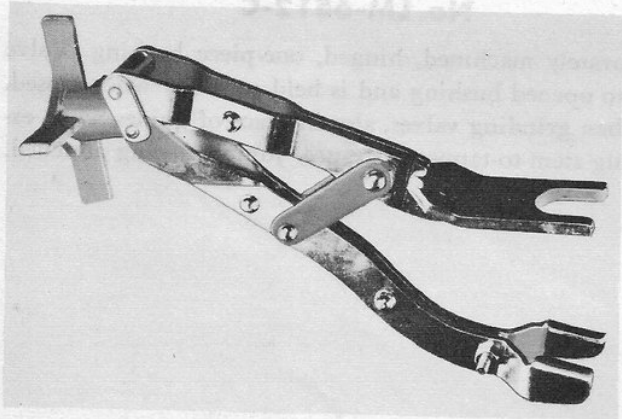
Compressor • Valve Spring • Engine
No. 6513-B

A double end "bar type" spring compressor for removing engine horseshoe keepers and pushing out the valve assembly, lifting valves for inspection, etc. Made of drop forged steel alloy with accurately machined pads, this well designed tool is 30 inches long giving plenty of leverage.



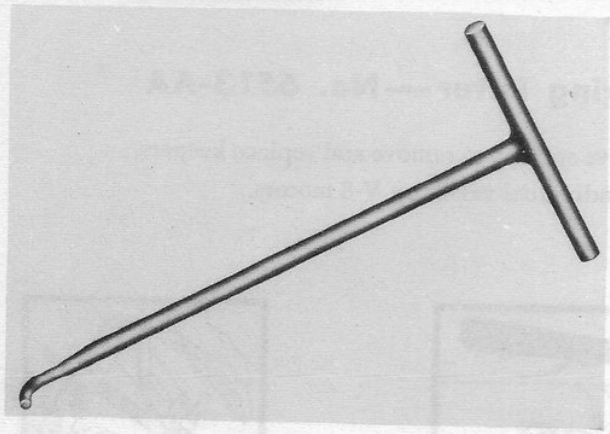
Compressor • Valve Spring • Engine
No. 6513-C

A forged compressor easily hooked over the engine block to form a proper lifting fulcrum for compressing all valve springs. A production type tool originally developed on the Ford engine assembly line.



Compressor • Valve Spring • Engine
No. 6513-D

A screw type compressor for the Ford six. Positively holds spring in any desired position leaving both hands free to insert keepers.



Remover • Valve Guide Retainer (Upper) • Engine
No. 6513-E

This tool is used to remove the valve guide retainer after the valve spring has been depressed. A very desirable tool to safely and quickly complete this operation and avoid squeezed or cut fingers.

Compressor • Valve Spring • Engine
No. 6513-G

This "Bar Type" spring compressor is made of tough forged steel with the proper size opening to compress the valve springs for easy removal of the horseshoe keepers and pushing out the valve assembly. It is of ample length for plenty of leverage and fitted with a plastic handle, to insure proper handgrip. Hard bright nickel plated to resist corrosion.

Micro Gage • Valve Checking • Engine
No. 6513 CC

(for 11/32" Valve Stem)

This durable micrometer type gage provides a practical, accurate and efficient means to gage and adjust the Roto-Cap clearance on the rotator or free valve mechanism in use on Ford vehicles. The free stem rotator type exhaust valves perform the following:

1. Prevent deposits from forming on the stem at the port end of the guide, resulting in sticking, because of the shearing action caused by rotation and vertical movement of the stem within the guide.

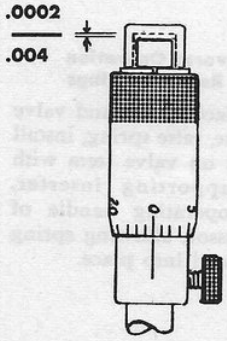
2. Prevent uneven deposits from building up on the face, because of the wiping action of the valve face against the seat as the valve closes.

3. Prevent guide wear and stem scuffing, because of better distribution of oil film between guide and stem surfaces.

4. Prevent spot burning of the valve face due to seat distortion, because no sector of the face remains at the leakage point long enough to build up excessive temperature.

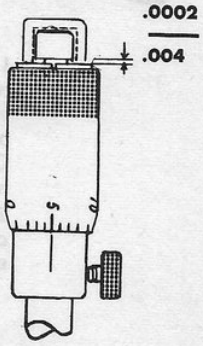
It is very important that proper clearance is maintained between end of cap and keepers as well as end of valve stem as shown below. This clearance permits rotation of valve in both up and down stroke. The use of the Micro Gage provides a ready means of assuring proper clearance and is simple in use as per instructions shown as follows:

How Micro Gage is used

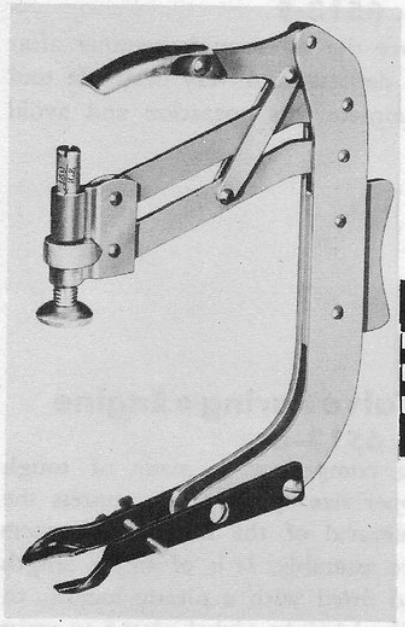


Install the Micro Gage on the valve as shown by the illustration. Insert keys in thimble and set on zero reading. Push Gage toward end of valve stem so the keys are seated firmly against shoulder on the stem. Lock Gage in position with screw provided. Place cap over end of valve stem and hold firmly against keys.

Turn thimble on Micro Gage to the left until the cap bottoms on end of stem and rim of cap just contacts keys. Read Gage. The number of thousandths turned from zero is the exact distance of cap travel before bottoming against end of stem. If clearance is less than recommended minimum grind end of valve stem, if more than recommended grind rim of cap. After adjusting be sure to keep valves, caps and keys in matched sets.



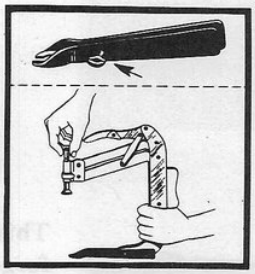
(Refer to Ford Service letter E-10 — Dated 4/12/49) and P-50 — Dates 2/28/49)

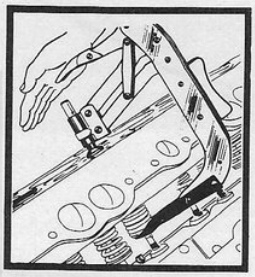


Valve Spring Lifter — No. 6513-AA

1. For raising valve springs to remove and replace keepers.
2. For servicing individual valves on V-8 motors.

FIRST STEP
Raise Spring with No. 6513AA Lifter. Remove Keepers



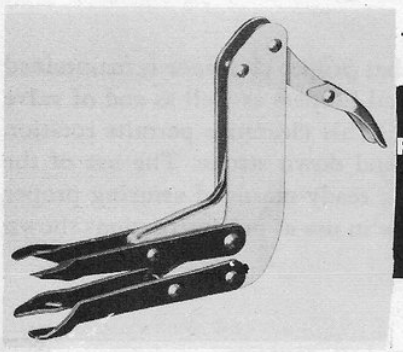


1. Adjust jaws with wing screw to fit valve spring. Next — adjust plunger screw to line marked 150 H. P. Lifter now ready for use.

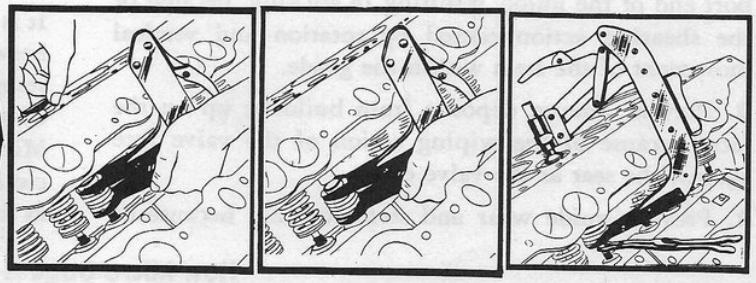
2. Raise operating handle. Place lifter on motor. Pushing operating handle down raises spring. After keepers are removed, raise operating handle to remove lifter. Proceed to next spring. Do not disturb plunger bar setting.

Valve Spring Compressor — No. 6513-BB

For removing and replacing valve spring. Must be used after keepers are removed with No. 6513 AA Lifter. Due to small valve chamber clearance, Compressor No. 6513 BB must be used to remove valve spring from motor before other work can be done on valves and lifters.



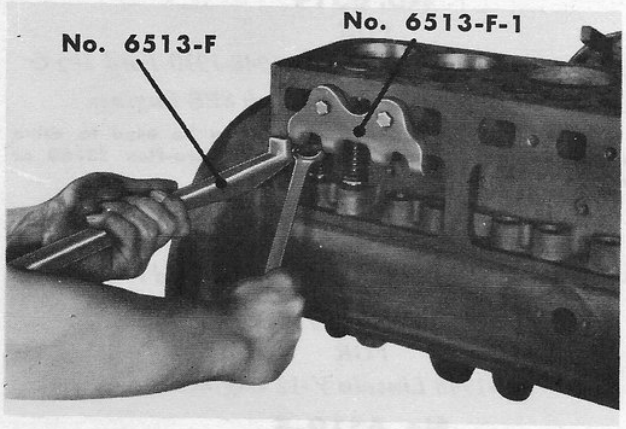
STEP TWO
Remove Spring with No. 6513 BB Compressor



1. Place upper jaw in position between cylinder casting and upper valve spring retainer; lower jaws beneath lower valve spring retainer. Compress spring by moving operating handle down until it locks in position.
2. Hold compressed spring up against cylinder casting. Before valve is removed be sure that tappet is not stuck in the lower spring retainer. Remove valve.
3. Valve removed, slide spring down, cocking lower end toward you until inner edge of lower retainer rests on top edge of tappet. Bear down to compress small hydraulic tappet spring, and at same time pull toward you, gently, to slide spring out.

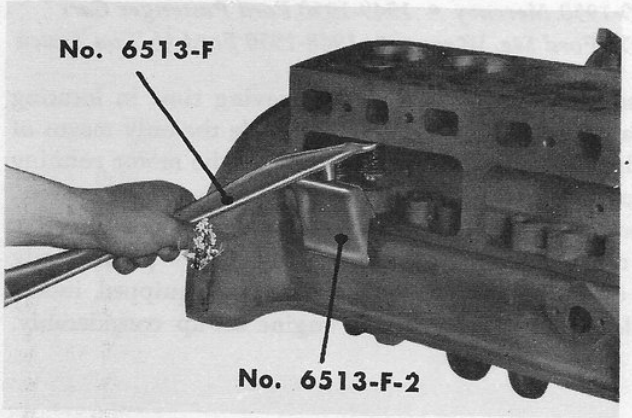
Reverse Operation to Replace Springs

4. Replace spring and valve in motor, raise spring, install keepers on valve stem with self supporting inserter. Raise operating handle of compressor, allowing spring to descend into place.



Compressor • Valve Spring
Tractor Engine
No. 6513-F

A double end bar type spring compressor, made of heat treated steel with accurately machined pads. The length is ample enough to insure plenty of leverage. This bar is used in connection with Accessories No. 1 and No. 2 for valve spring of keeper removal. Hard nickel plated to resist corrosion.

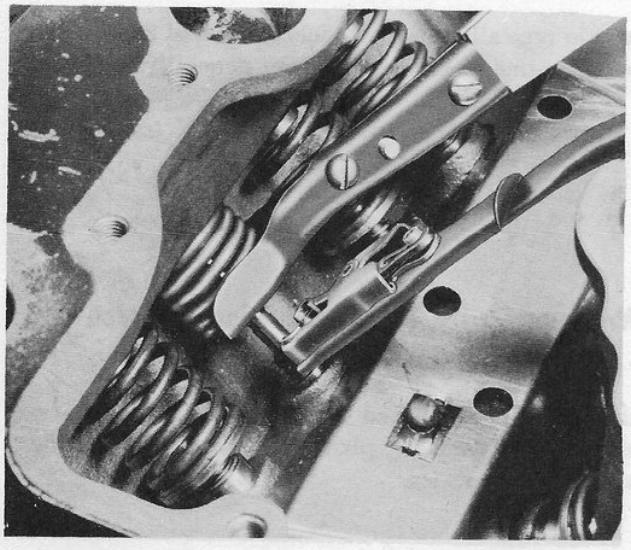


Accessory No. • 1Compressor • Valve Spring
Tractor Engine
No. 6513-F-1

A well made fine grain cast iron accessory for use with Valve Spring Compressor to remove valve spring keepers. It is attached to the cylinder to insure a stop for the bar. Finished in hard bright nickel to resist corrosion.

Accessory No. 2 • Valve Spring Compressor
Tractor Engine
No. 6513-F-2

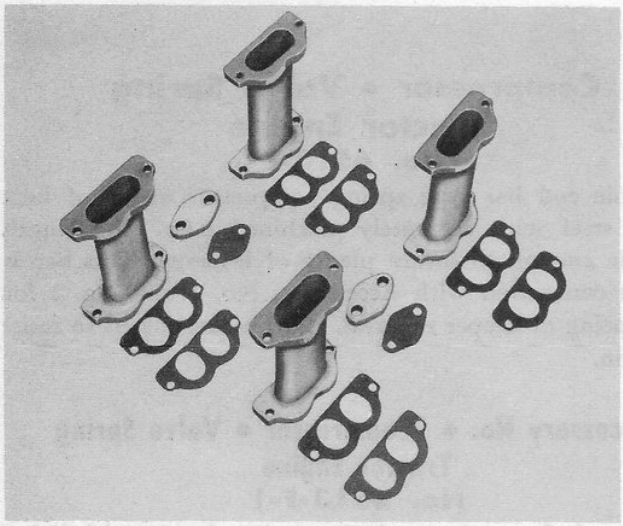
A well made fine grain cast iron accessory for use with Valve Spring Compressor, to act as a lever point when compressing valve springs. It fits over the valve spring chamber ledge, the lower portion resting on the cylinder block wall, thus assuring a positive non-slipping rest. Finished in hard bright nickel to resist corrosion.

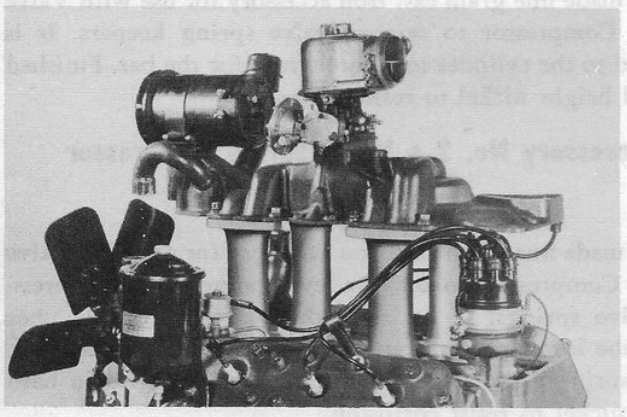


Replacer • Valve Lock • Engine
No. 6518

An inexpensive but efficient tool that effectively does a tedious job in a hurry. The split locks or keys are readily held by the spring clip until the spreader bar is pushed against the valve stem and the valve spring is released. No nipped fingers when this tool is used.

NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.





Riser Set • Manifold • Engine

No. 6519

FOR

1949-1950 Lincoln 8EL Engine • 1948-1950 Ford 2½ & 3 Ton Truck • 8EQ and Coach 8EB Engines

Note: — A Standard "Vee" belt 76" long can be used to drive water pumps while engine is running. (Gates Tru-Flex #3760 or equivalent).

No. 6519-D

FOR

1939-1948 Mercury V-8 Engines • 1936-1948 Ford V-8 Engines

No. 6519-E

FOR

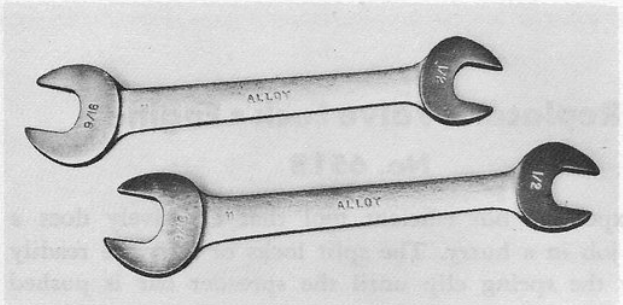
1936-1948 Lincoln V-12 Engines

No. 6519-F

FOR

1949-1950 Mercury • 1949-1950 Ford Passenger Cars 1949-1950 Ford Sta. Wagon • 1948-1950 Ford ½ Ton Truck

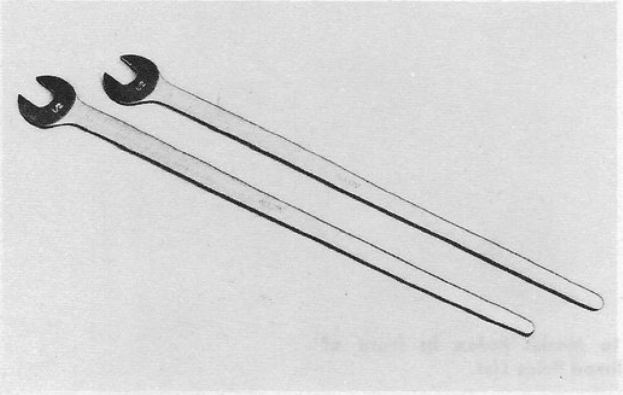
These sets will prove invaluable in saving time in locating noisy valve and lifter leaks. They provide the only means of valve chamber accessibility while having the motor running under almost normal operating conditions. Noisy valves, weak or broken springs, poorly seated valves and defective lifters can be readily located. Many shops permanently mount the riser set and tank on a fully equipped intake manifold which speeds up the engine set-up considerably.



Wrenches (Pr.) • Tappet Adjusting • Engine

No. 6549

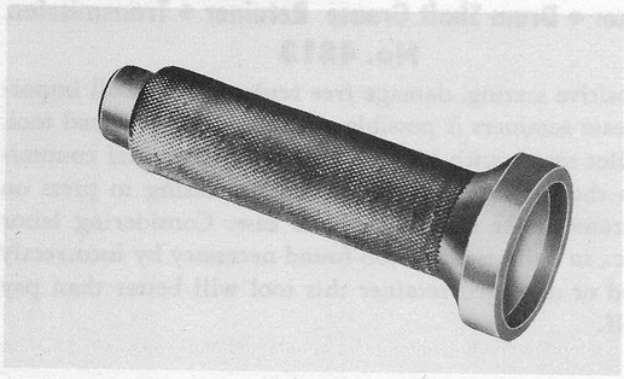
Standard thin type alloy steel wrenches that will handle Ford six tappet adjustments as well as being generally useful.



Wrenches (Pr.) • Tappet Adjusting • Engine

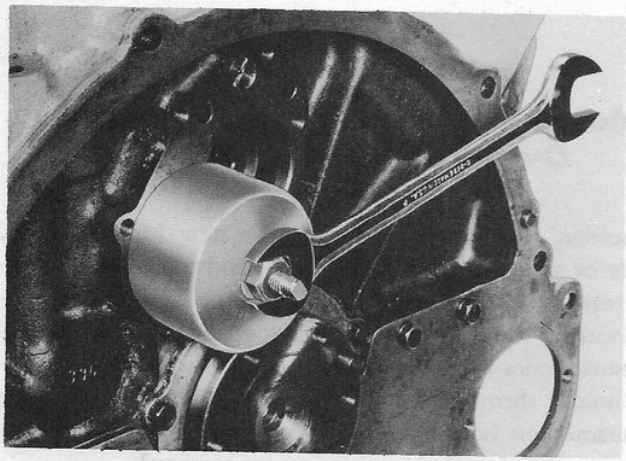
No. 6549-A

Standard thin type single end alloy steel wrenches. These wrenches are extra long, for plenty of leverage and reduce hazard of skinned knuckles.



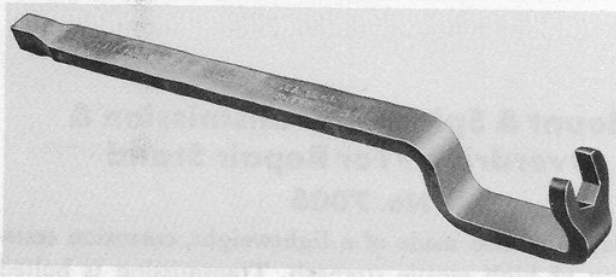
Replacer • Oil Pump Idler Gear Shaft • Engine
No. 6656-A

A properly designed, hardened and finished tool for replacing the idler gear shaft without damaging bearing surface, upsetting end of shaft, or damaging bushing.



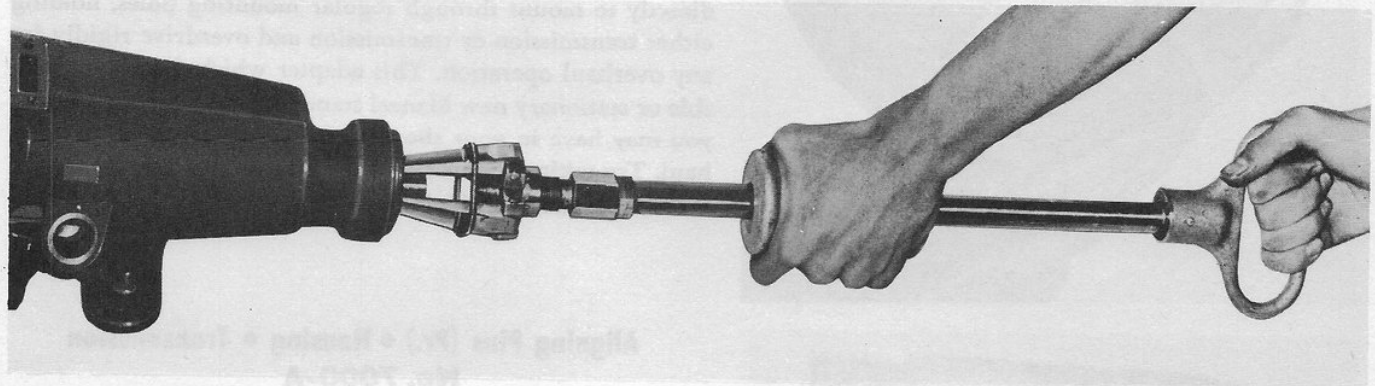
Remover • Oil Pump Idler Gear Shaft • Engine
No. 6656-B

A cup type remover for rapid removal of idler gear shaft. Cup is made of high strength, lightweight alloy. Jack screw has milled flats on the end to enable it to be screwed in to the shaft.



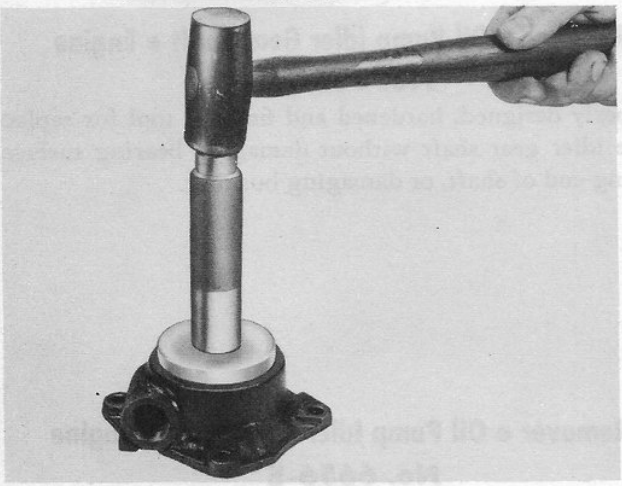
Wrench • Oil Pressure Gauge • Engine
No. LM-9278

Due to the positioning of the oil pressure lines, this tool is a "must" when working on this unit. A carefully hardened and formed tool to do the job in a labor and time saving manner.



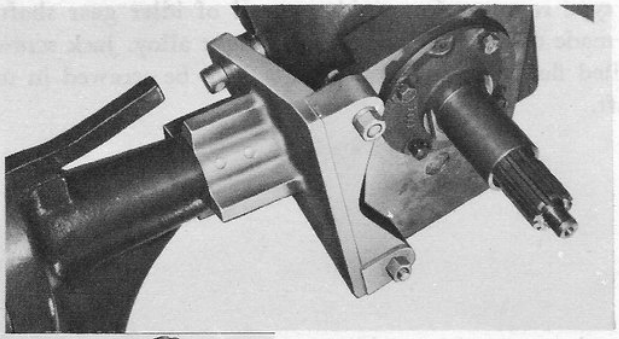
Remover • Grease and Oil Seal • Transmission and Rear Axle
No. 1175-H

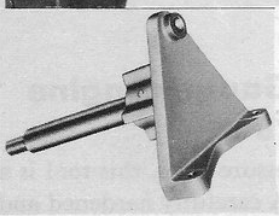
"Universal" will fit all passenger cars and small trucks. Enables removal of seals without disassembly of transmission out put shaft or drive pinion shaft on rear axle application. Four narrowly tapered jaws are adjustable by turning the center screw. Tool is inserted between shaft and seal. Jaws are then expanded to rest behind metal retainer. A blow or two of the slide hammer and the retainer is out. A time saver on any job.

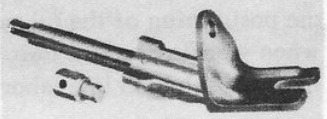


Replacer • Drum Shaft Grease Retainer • Transmission
No. 4813

Fast, positive seating, damage free replacement of all important grease retainers is possible with this well designed tool. Lead pilot mates with I. D. of retainer while relief counterbore in the pressing face clears retainer casing to press on the extreme outer diameter of the case. Considering labor cost, etc., in a disassembly job found necessary by incorrectly installed or damaged retainer this tool will better than pay for itself.





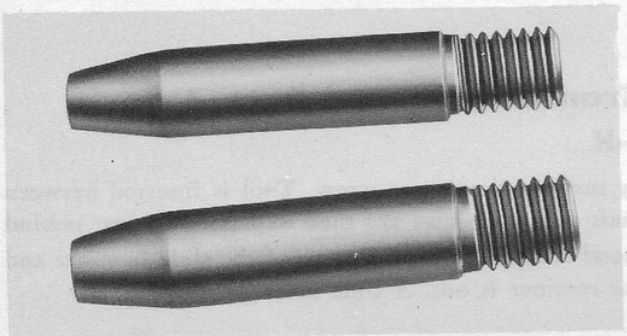


Mount & Spindle • Transmission & Overdrive • Repair Stand
No. 7000

This holder, which will fit either the new Manzel stand, portable or stationary, or older type stands, is made of corrosion resistant, lightweight alloy. It can be dropped on concrete floors, or rapped with a hammer, without fear of breaking. Transmission, with or without overdrive, bolts right into the holder through the regular mounting holes, holding the transmission housing rigidly for driving, or any other work necessary. A real time saver on an overhaul.

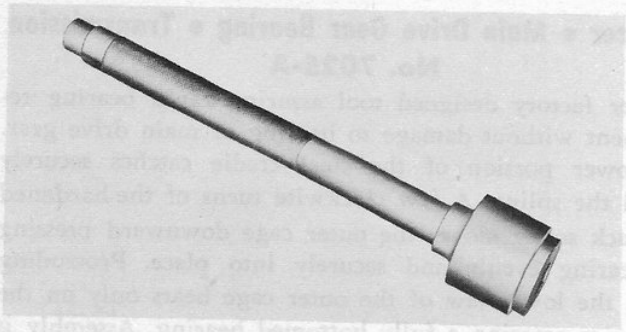
Mount & Spindle • Transmission & Overdrive • For Repair Stand
No. 7005

This adapter is also made of a lightweight, corrosion resistant alloy of high tensile strength. Transmission is bolted directly to mount through regular mounting holes, holding either transmission or transmission and overdrive rigidly for any overhaul operation. This adapter which fits either portable or stationary new Manzel stands, or the older type stands you may have in your shop is a real time saver on an overhaul. Try taking the work off the floor or bench, mount it in this adapter and see the increase in production.



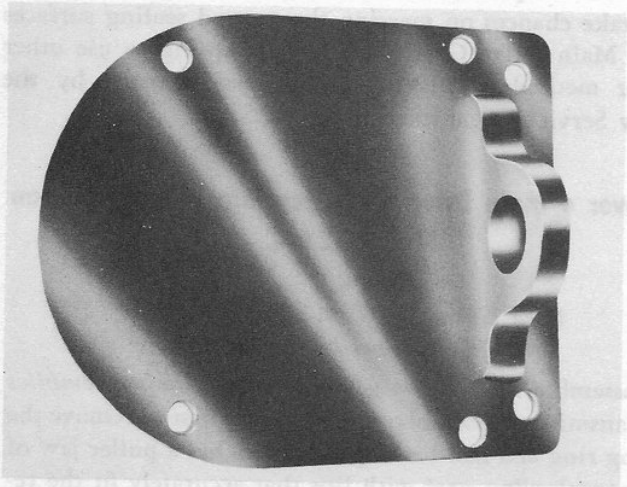
Aligning Pins (Pr.) • Housing • Transmission
No. 7000-A

For speedier installation of engine into the chassis (where transmission has not been removed) or assembly of transmission to engine bell housing try a pair of these aligning pins screwed into the housing. Pins are made of hardened steel having a tapered pilot end with screw driver slot for ease of removal and are cadmium plated.



Assembly Tool • Rawhide Driver • Transmission
No. FLM-7005

A properly designed, hardened and finished tool for driving transmission shaft assembly, or for driving any machined shaft without damage to the shaft. This is accomplished by the rawhide insert in the driving cup.

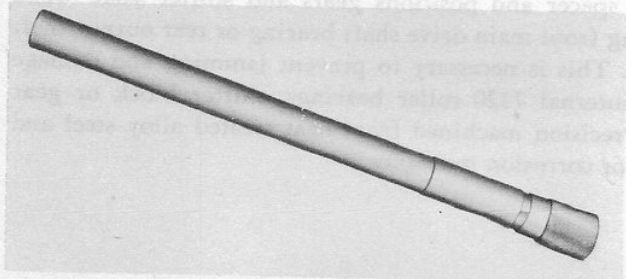


Lift Plate • Transmission
No. 7005-B

A sturdy well designed Lift Plate to facilitate handling the Transmission. It is fastened to the top surface of the Transmission Housing. An eye cast integral is provided for chain hoist hook. Finished in hard bright nickel plate.

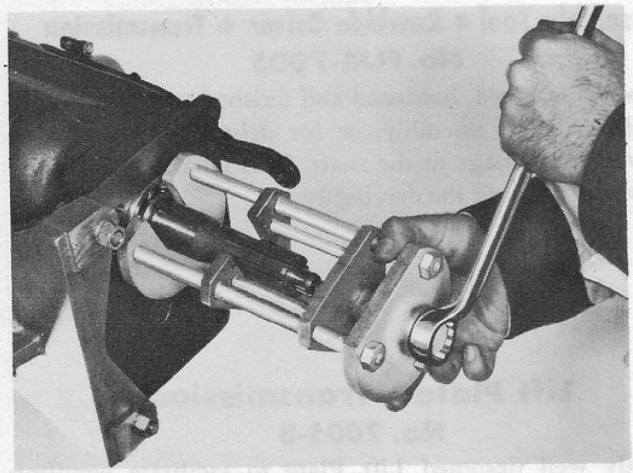
Remover • Main Drive Gear Bearing • Transmission
No. 7025

To disassemble main drive gear from transmission assembly, it is necessary first to remove snap ring and roller bearing from main drive gear. This factory designed tool has a puller jaw of alloy steel with a narrow protruding lip that fits into the snap ring groove. A tapered counterbore in the hardened steel jack screw lines up tool centrally with the main drive gear shaft giving an even and straight pull to the roller bearing. This permits re-use of the bearing and eliminates possibility of damage to the transmission gear, main drive gear or countershaft drive gear. Tool is fully cadmium plated to resist corrosion.



Fixture • Bearing Assembly • Transmission
No. LM-7025

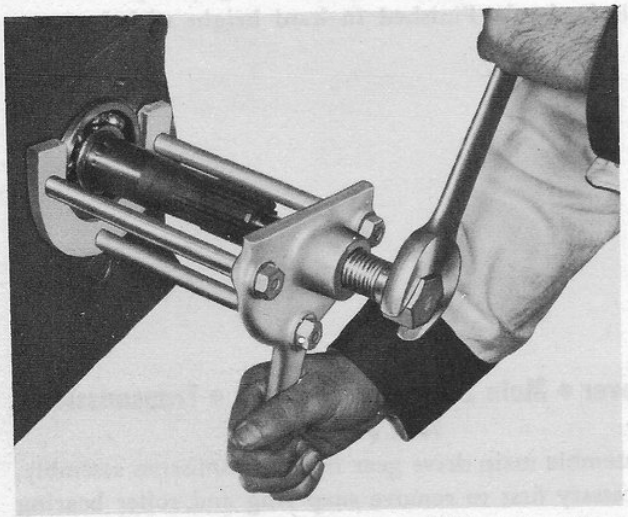
When assembling cluster gear and bearing in transmission, this tool is a time saving necessity. Hardened and ground surface, chamfered on one end for easy entrance. Knurled on the other for easy holding.



Replacer • Main Drive Gear Bearing • Transmission
No. 7025-A

Another factory designed tool assuring rapid bearing replacement without damage to bearing or main drive gear. The lower portion of the steel cradle catches securely behind the spline. A few clockwise turns of the hardened steel jack screw moves the outer cage downward pressing the bearing evenly and securely into place. Protruding lip on the lower jaw of the outer cage bears only on the inner race assuring a fully bottomed bearing. Assembly is fully cadmium plated to resist corrosion.

Don't take chances on marring the ground sealing surfaces on the Main Drive Gear Shaft by attempting to use other inferior methods. This tool is deemed essential by the Factory Service Organization.

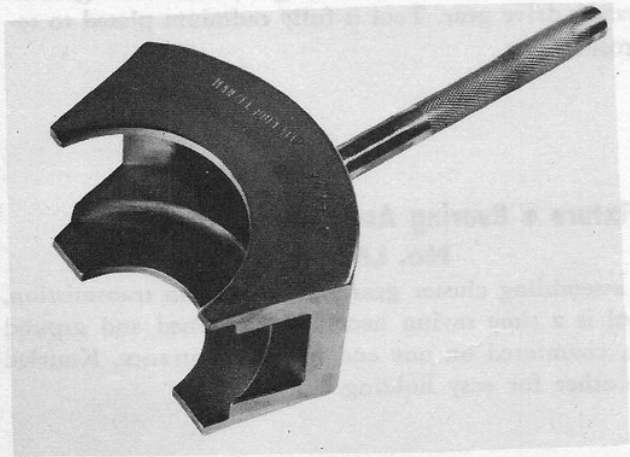


Remover • Main Drive Shaft Bearings • Transmission
No. 7025-C

FOR
Ford 1 Ton, 1½ Ton, 2 Ton Truck
8 MTH Four Speed Transmission

To disassemble *main drive gear* or *output shaft assemblies* from transmission assembly, it is necessary first to remove the retaining ring and ball bearing. This tool has a puller jaw of high strength alloy steel with lips that accurately fit the retaining ring groove. A tapered counterbore in the hardened steel jack screw lines up tool centrally with the shaft and gives an even and straight pull to the bearing. Head of the tool has a handle to keep shaft from turning while pressure is being exerted on end of jack screw.

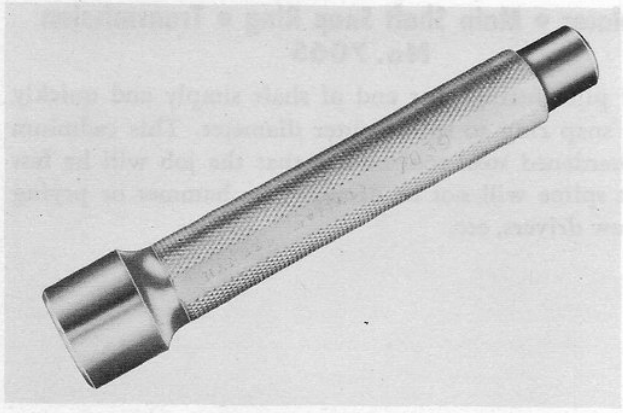
NOTE: The use of this tool will permit reuse of the bearing and prevent damage to gears, shafts or housing. Removal of bearing in any other fashion will in most cases damage the parts by increasing the press fit diameters. This can readily necessitate expensive replacement of parts particularly in the case of an enlarged bearing bore in the housing.



Stop Yoke • Main Drive Gear Bearings • Transmission
No. 7025-D

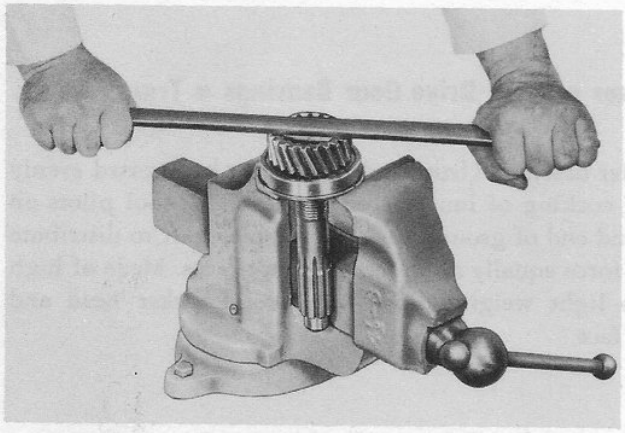
FOR
Ford 1 Ton, 1½ Ton, 2 Ton Truck
8 MTH Four Speed Transmission

Acts as spacer and positions gears and shifter yoke when installing front main drive shaft bearing or rear output shaft bearing. This is necessary to prevent jamming and damage to the internal 7120 roller bearings, shifter block or gear teeth. Precision machined from heat treated alloy steel and plated for corrosion resistance.



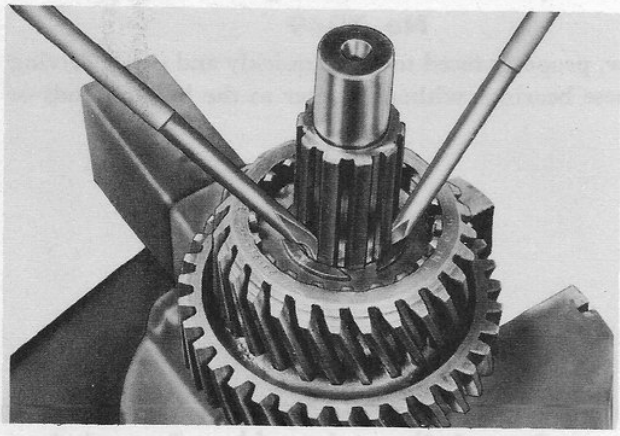
Remover & Replacer • Universal Joint • Transmission
No. 7039

Designed for driving out and replacing cap bushings. By driving bushing and spider to the opposite side, one bushing is removed. By driving the spider back again, the second bushing is removed. A hole is provided to centralize the spider. Replacing bushings is easily accomplished by reversing this procedure.



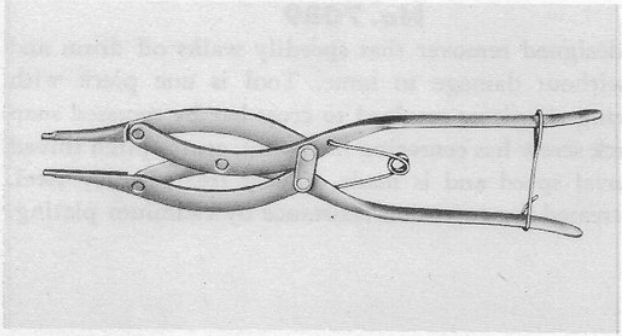
Remover & Replacer • Main Drive Bearing • Transmission
No. 7045

A necessary wrench type tool for rapid assembly and disassembly of main drive bearing without damage to main drive gear. The thin bearing retainer nut is held in vice jaws as shown. The protruding lip of the wrench fits the internal spline of the gear, enabling gear, shaft and bearing to be tightened against retainer nut thus preloading the bearing.



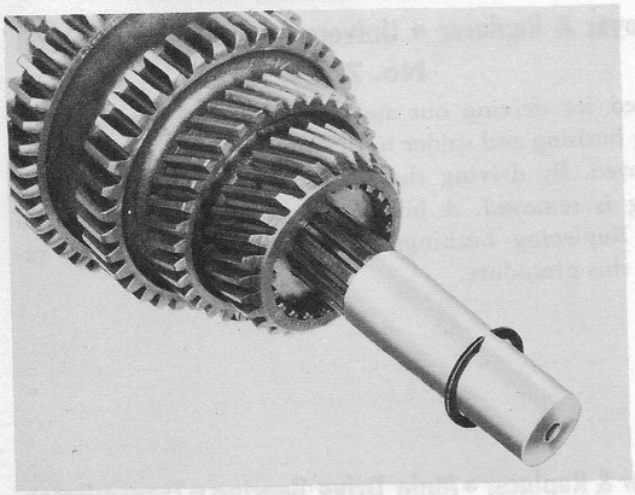
Remover • Main Shaft Snap Ring • Transmission
No. 7063

This snap ring is one of the tough ones to remove. Without proper tools, a mechanic can consume a lot of time over a job that is simple with adequate tooling. This set of hardened alloy steel, cadmium plated pry tools will quickly pay for themselves in time saving alone.



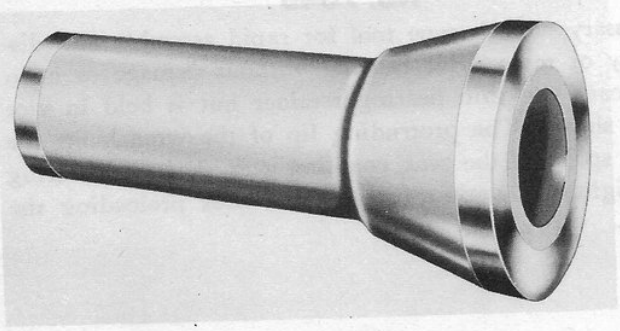
Remover • Snap Ring
No. 7064

These pliers are the newest development in this type of tool. Handles are long and furnish plenty of leverage for opening the stiffest snap ring. The tips are ground so that they will get into the deepest groove and are knurled so the ring, even though covered with grease will not slip off. The jaws are "parallel opening" thus assuring the snap ring will not be bent out of shape or the end of the pliers curved. A real "must" and a time saver on any snap ring job.



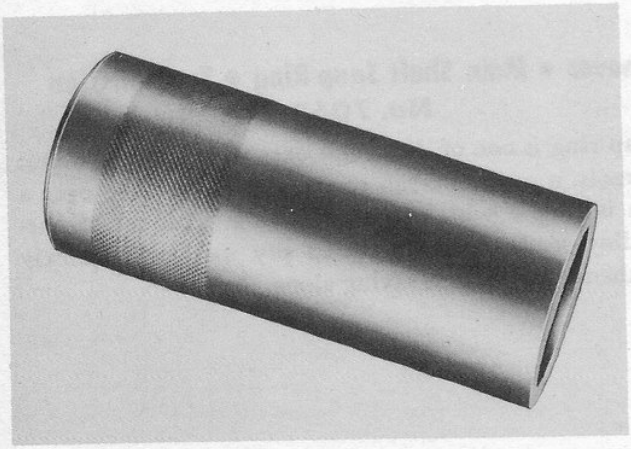
Replacer • Main Shaft Snap Ring • Transmission No. 7065

Tapered pilot fitting over end of shaft simply and quickly expands snap ring to spline outer diameter. This cadmium plated, hardened steel tool assures that the job will be fast and that spline will not be damaged by hammer or prying with screw drivers, etc.



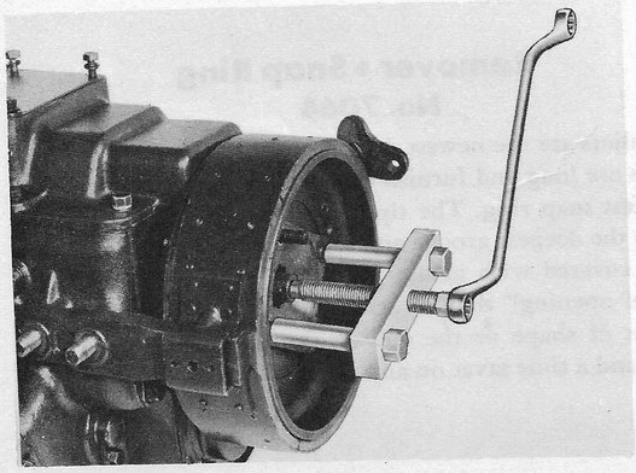
Replacer • Main Drive Gear Bearings • Transmission No. 7065-A

The roller bearings (front and rear) must be inserted evenly without cocking of inner or outer race. This tool pilots on spline and end of ground surface on main shaft to distribute driving force equally on inner and outer races. Made of high strength light weight alloy with steel knocker head and driving face.



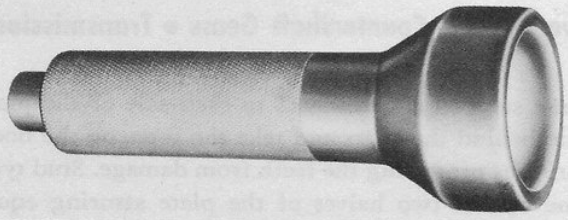
Driver • Splined Bronze Bushings • Transmission No. 7069

A hollow, properly faced tool, for quickly and easily driving home these bearings without danger to the bearing ends or splines.



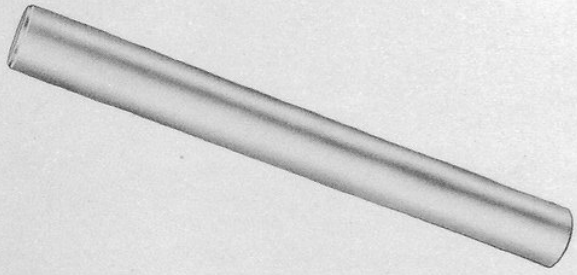
Remover • Drum & Flange Assembly • Transmission No. 7089

A well designed remover that speedily walks off drum and flange without damage to same. Tool is one piece with shouldering tie pieces retained to cross bar by recessed snap rings. Jack screw has centering lead pilot, coarse pitch thread for removal speed and is made of heat treated alloy steel. Tool is treated for corrosion resistance by cadmium plating.



Replacer • Synchromesh Hub • Transmission
No. 7105

A handy and efficient tool to insure perfect and rapid replacement of this hub. Accurately machined with inside and outside pilots to do the job without damage to parts. Hard bright nickel plated to resist corrosion.

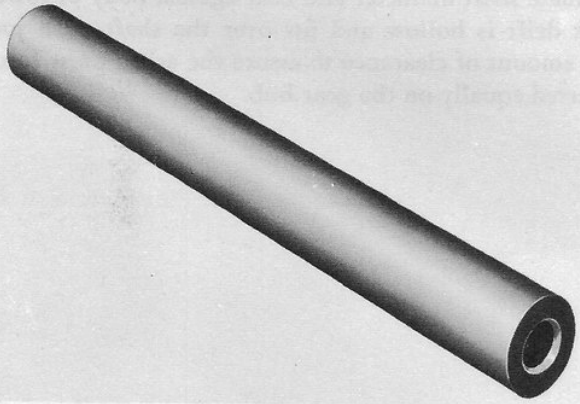


Pilot • Countershaft Assembly • Transmission
No. 7111 *FOR 1949-1950 Lincoln*

Pilot • Cluster Gear Roller Retainer • Transmission
No. 7121

FOR 1949-1950 Ford 6 & 8 Cylinder Passenger Car

This tool is a real time saver. When assembling or disassembling countershaft, the tool closely follows shaft and prevents the needle bearings from falling out. If needle bearings need to be replaced, this tool should be used so that proper number and placement of needle bearings will be assured. An absolute must when performing any of these operations.



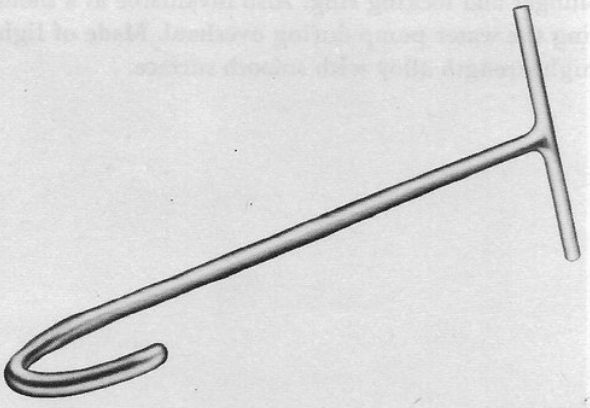
Countershaft Dummy • Transmission
No. 7111-A

FOR

Ford 1 Ton, 1½ Ton, and 2 Ton Truck
8 MTH Four Speed Transmission

This tool is inserted into counter shaft cluster to hold 88 roller bearings (7118), spacers and washers in position before countershaft is inserted. The hardened and ground dummy is shorter than the cluster. Bearings, etc., are assembled into the cluster with dummy in place. Dummy is later pushed out by the countershaft when it is installed into cluster assembly in position in the housing.

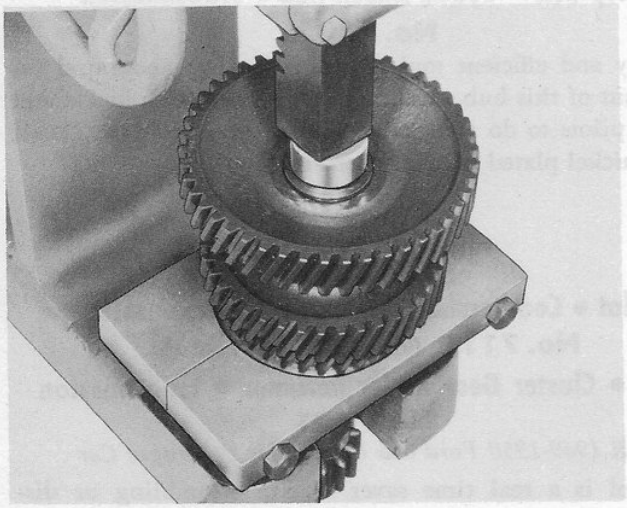
NOTE: Tool 7140 furnished with 1948 Ford truck essential tools can be used for removing the 8 MTH transmission countershaft. Much time can be saved by inserting the 7111-A dummy progressively when countershaft is being removed. Use a ½" to ⅝" drift in counterbore on dummy end to keep from damaging ground O.D.



Alignment Hook • Cluster Gear • Transmission
No. 7113-B

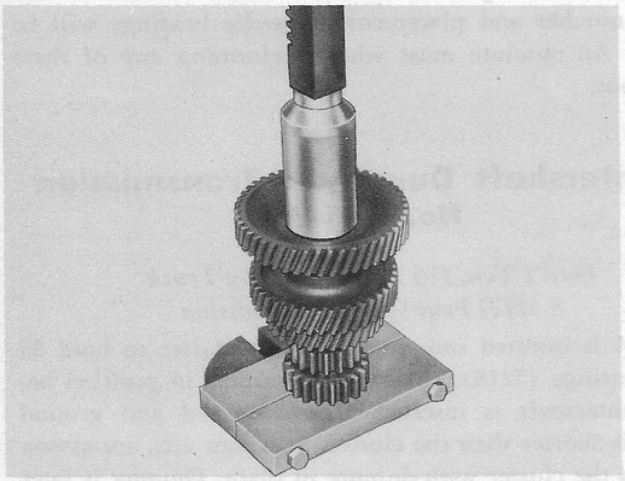
A very necessary tool to insure perfect alignment of cluster gears, when reassembling. Sturdy and well designed to really take it. Hard bright nickel plated to resist corrosion.

NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.



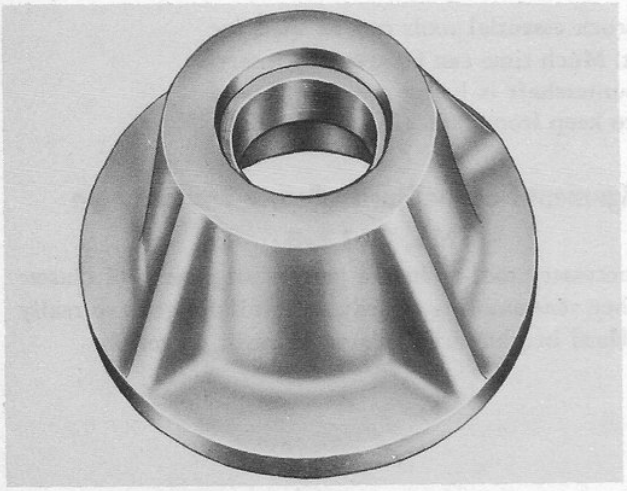
Remover Plate • Countershaft Gears • Transmission
No. 7113

Tapered and stepped counterbores in each side of the plate halves mate behind the gears and take the force on the body of the gear, thus protecting the teeth from damage. Stud type dowels line up the two halves of the plate assuring equal distribution of bearing on the plates and gear body. Plates are wide and will readily span the normal arbor press opening.



Replacer • Countershaft Gears • Transmission
No. 7113-A

To properly install gears without damage, the split back-up plate and drift as shown are a must. The plate halves are bored to mate shaft diameter and bear against body of lower gear. The drift is hollow and fits over the shaft with just the right amount of clearance to assure the arbor press force being exerted equally on the gear hub.

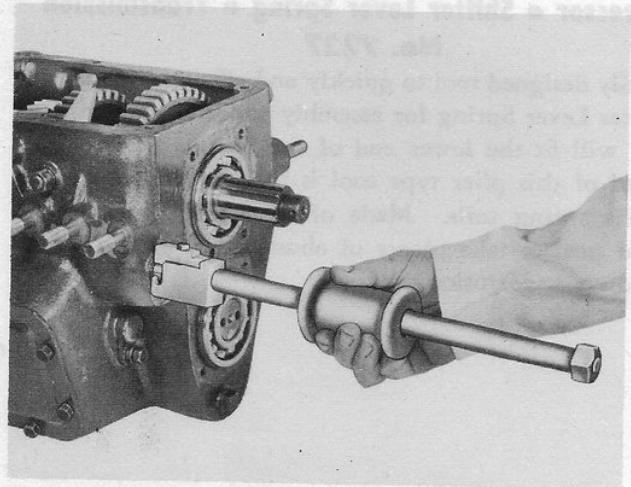


Holding Base • Shaft • Transmission
No. 7117

The best means for holding the transmission shaft in vertical position when installing bearings or when assembling the spring plunger and locking ring. Also invaluable as a mount for holding the water pump during overhaul. Made of light-weight high strength alloy with smooth surface.

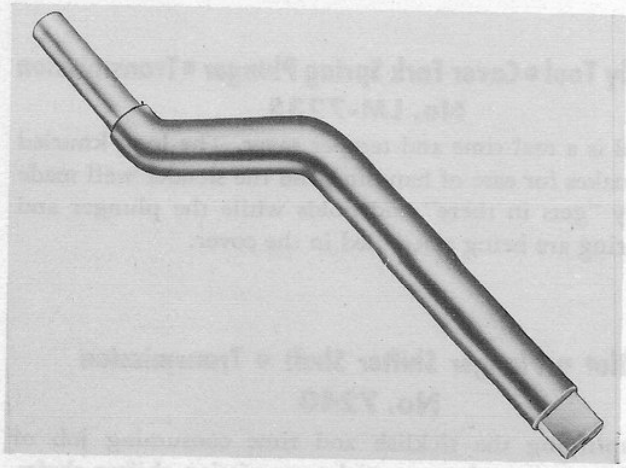
Assembly Ring • Syncro Mesh • Transmission
No. 7124

A necessity when doing this sub-assembly job. Without this ring, a rubber band, wire or some other substitute must be used with a resultant waste of time and labor.



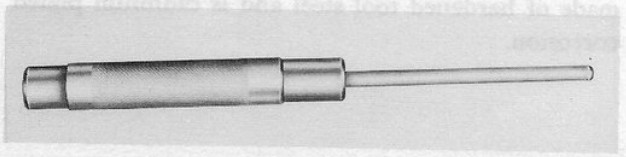
Remover • Idler Gear Shaft and Shifter Arm Shaft • Transmission
No. 7140

An "essential" tool per factory tool and equipment section, designed specifically to remove the idler gear and shifter arm shafts without damage to same. Protruding lip on heat treated alloy steel puller block accurately fits groove in shaft end. Retainer block (held in place by hex cap screw) has two different thicknesses and radial faces at either end to permit the use of tool on the different diameter shafts. A sturdy, hand-fitting, slide hammer and convenient handle (not shown in photo) complete an efficient, necessary, time saving tool.



Remover • Idler Gear Shaft • Transmission
No. 7140-A

When "tearing down" a transmission, the idler gear must be removed first. This tool, with its offset driver is the only way a mechanic can "get by" the main drive gear and drive the idler gear shaft from the internal web which supports it, without damage to the shaft, web, or bearing. A really essential time saving tool.

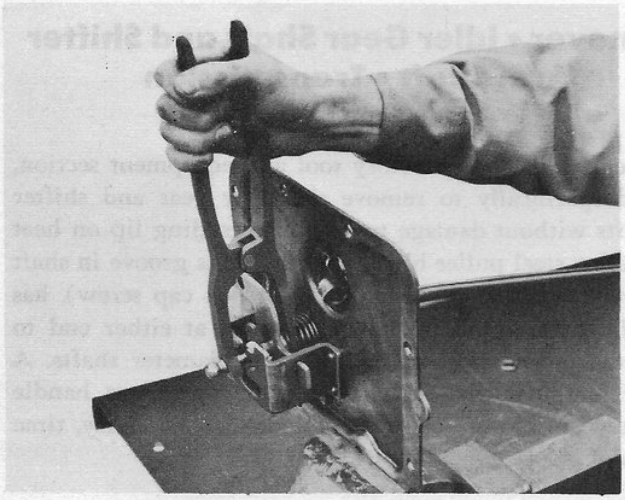


Pilot • Idler Shaft Alignment • Transmission
No. 7141

This tool is a real time saver. With its knurled handle for easy handling and its properly hardened and shaped point makes a quick job of assembling the idler shaft assembly.

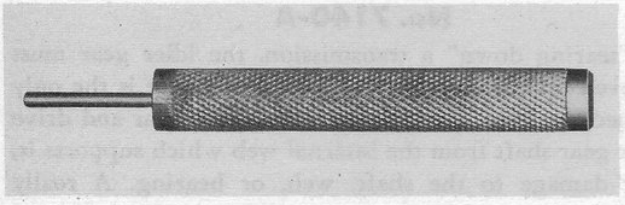
Remover • Gear Shift Socket Sleeve • Transmission
No. 7224

A specially designed, factory approved tool to quickly remove the gear shift socket sleeve. It is made of spring steel, with the ends designed to match the holes in the sleeve, making it positive in action, as well as a time saver.



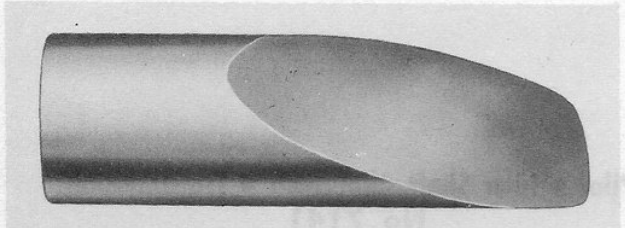
Compressor • Shifter Lever Spring • Transmission
No. 7227

A specially designed tool to quickly and efficiently compress the Shifter Lever Spring for assembly and disassembly. The cap end will fit the lower end of the Shifter Lever. The other end of this plier type tool is thin enough to go between the spring coils. Made of manganese bronze and hardened steel to take plenty of abuse. Hard bright nickel plated to resist corrosion.



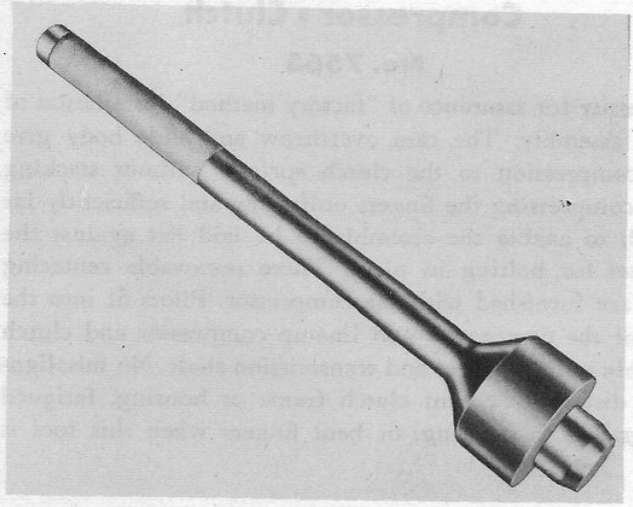
Assembly Tool • Cover Fork Spring Plunger • Transmission
No. LM-7235

This tool is a real time and temper saver. The long knurled handle makes for ease of handling and the slender well made tip really "gets in there" and holds while the plunger and locking ring are being assembled in the cover.



Pilot • Plunger Shifter Shaft • Transmission
No. 7240

For simplifying the ticklish and time consuming job of assembling spring plungers and transmission shifter shafts. Pilot is made of hardened tool steel and is cadmium plated to resist corrosion.



Driving Head • Rear Seal Assembly • Transmission

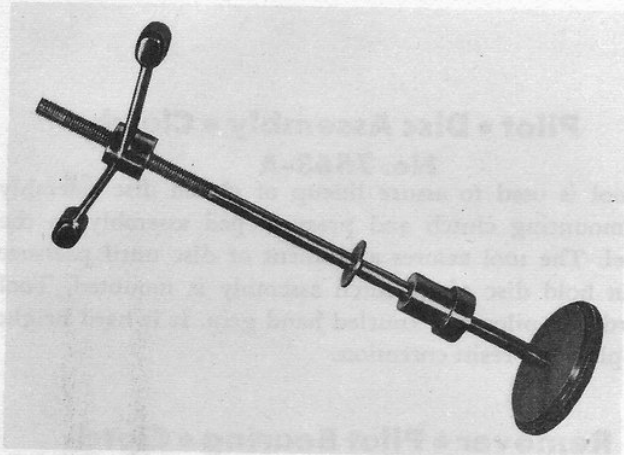
No. 7657-K

FOR 1949-1950 Mercury

No. 7657-L

FOR 1949-1950 Lincoln

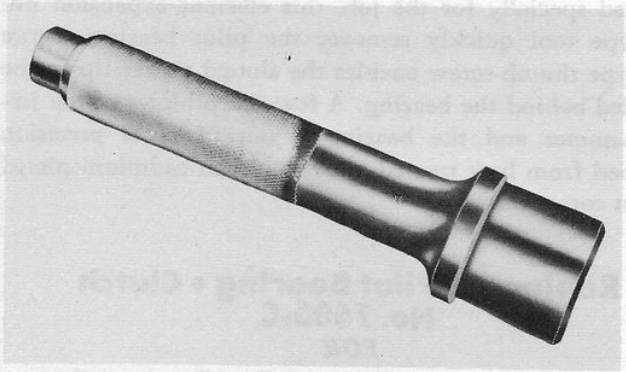
This tool will quickly and efficiently replace the rear seal assembly without damage to other more costly parts or the seal itself. The pilot head is accurately machined to center the seal. Handle has a knurled hand grip and reduced diameter knocker head. Tool is hard bright nickel plated to resist corrosion.



Replacer • Bearing • Transmission Extension & Overdrive

No. 7699

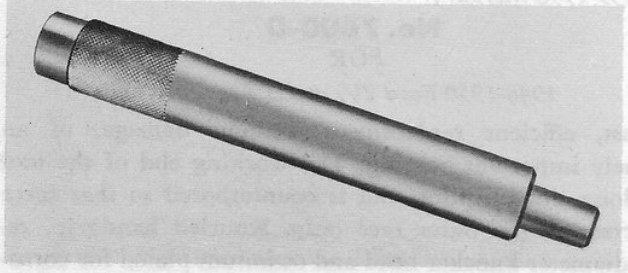
An essential tool to quickly and efficiently replace the transmission extension and overdrive bearings. The accurately machined head and pilot will permit installation without damage to either bearings or adjacent parts. The forged handle is for quicker action. Hard bright nickel plated to resist corrosion.



Remover • Bearing • Transmission Extension & Overdrive

No. 7699-A

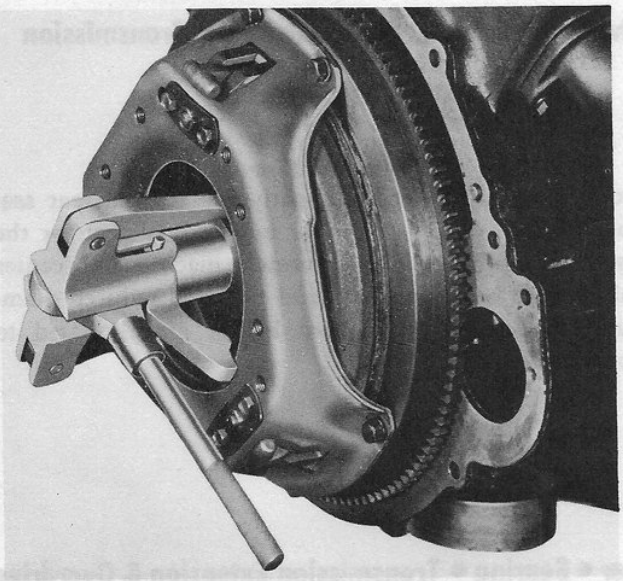
A very necessary and desirable tool for removing the bearings quickly without damage to parts. The piloted working head is accurately machined and finely finished from alloy steel and heat treated. The handle has a knurled hand grip and a reduced diameter knocker head.



Pilot • Disc Assembly • Clutch

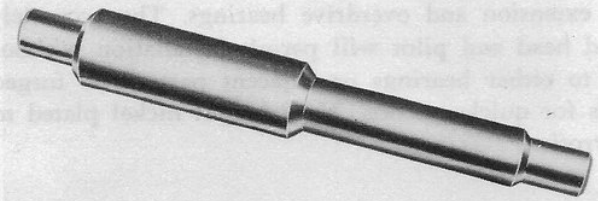
No. FLM-7550

Used to assure line-up of clutch disc assembly when mounting clutch and pressure pad assembly to the flywheel. This tool assures that disc will be held in line until pressure pad can hold the disc after clutch assembly is mounted. Tool has hardened pilot, knurled handgrip and is cadmium plated to resist corrosion.



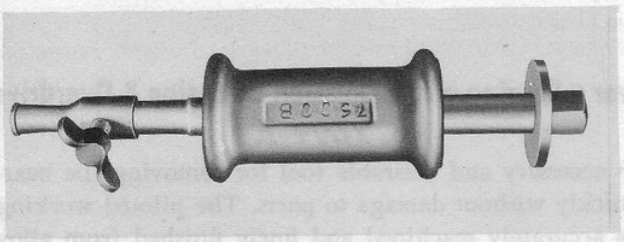
Compressor • Clutch
No. 7563

A necessity for assurance of "factory method" installation of clutch assembly. The cam overthrow and slide body give even compression to the clutch springs without stacking same, compressing the fingers uniformly and sufficiently far enough to enable the assembly to be laid flat against the flywheel for bolting in place. Three removable centering pilots are furnished with the compressor. Pilots fit into the body of the compressor and line-up compressor and clutch assembly with flywheel and transmission shaft. No misalignment, distorted or bent clutch frame or housing, fatigued springs due to stacking, or bent fingers when this tool is used.



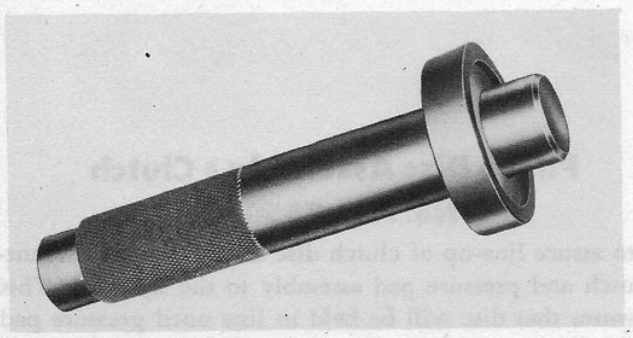
Pilot • Disc Assembly • Clutch
No. 7563-A

This tool is used to assure lineup of clutch disc assembly when mounting clutch and pressure pad assembly to the flywheel. The tool assures alignment of disc until pressure pad can hold disc after clutch assembly is mounted. Tool has hardened pilot and knurled hand grip. It is hard bright nickel plated to resist corrosion.



Remover • Pilot Bearing • Clutch
No. 7600-B

Designed specially for the job, this efficient expansion impact type tool quickly removes the pilot bearing. Large wing-type thumb screw enables the slotted puller lips to be expanded behind the bearing. A few sharp blows of the impact hammer and the bearing is out. Tool is precision machined from heat treated alloy steel and cadmium plated to resist corrosion.



Replacer • Pilot Bearing • Clutch
No. 7600-C

FOR

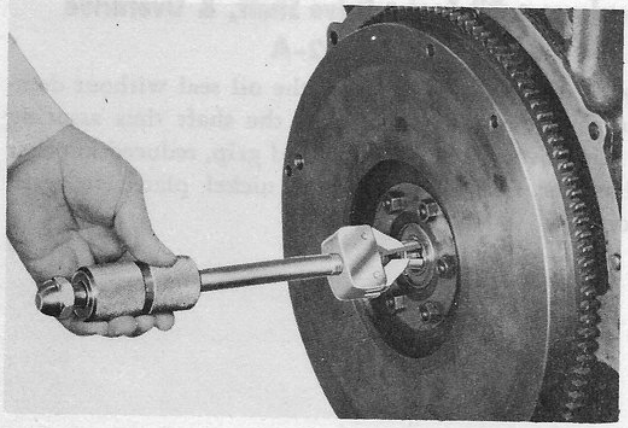
1939-1950 Lincoln • 1939-1948 Ford Passenger Cars
1939-1950 Mercury

No. 7600-D

FOR

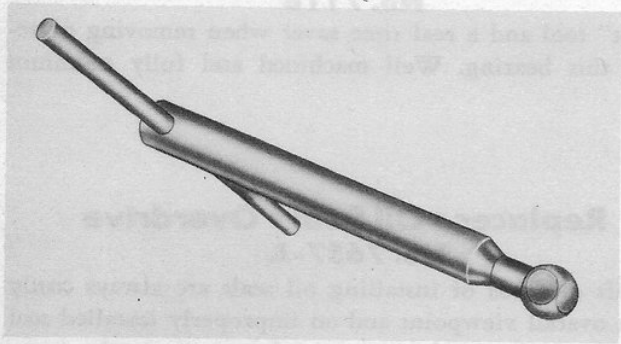
1948-1950 Ford 2½ and 3 Ton Trucks

For fast, efficient replacement without damage, of an extremely important bearing. The working end of the tool has a long line-up pilot, and is counterbored so that force is exerted on the outer race only. Knurled handgrip, reduced diameter knocker head and cadmium plated for corrosion resistance.



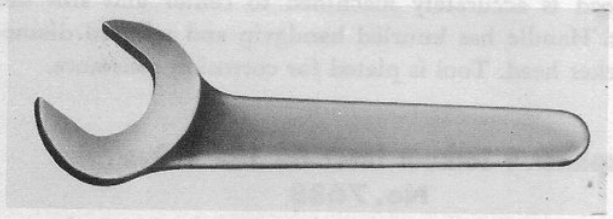
Remover • Pilot Bearing • Clutch
No. 7600-E

A handy, time saving tool that will serve in many other applications in removing small diameter bearings. The jaw gap is adjustable from ½" to 1¼" and by rotating the puller shaft the jaws can be expanded to a tight fit inside the bearing. A few quick taps with the slide hammer and bearing is removed.



Positioning Tool • Pawl • Overdrive
No. 6915-AA

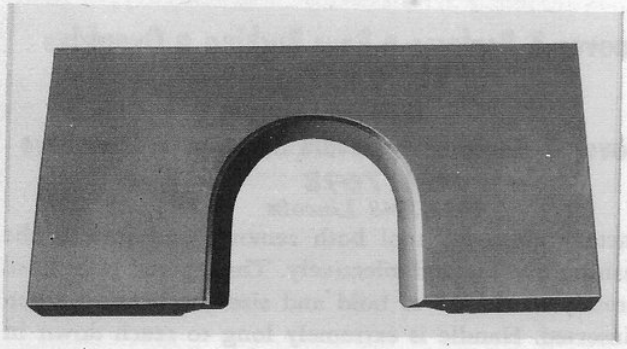
When assembling the solenoid unit to the overdrive it is necessary that the overdrive pawl be in the proper position to ensure engagement. This tool is designed to position the overdrive pawl prior to assembly of the solenoid. This tool is inserted in the slot in the pawl, turned one quarter of a revolution to engage it and with it the pawl is drawn out as far as possible. This disengages the pawl from the balk ring and permits it to become engaged to the solenoid shaft.



Wrench • Governor • Overdrive
No. 6919
FOR
1949-1950 Lincoln • 1949-1950 Mercury

No. 6919-L
FOR
1949-1950 Ford Passenger Cars

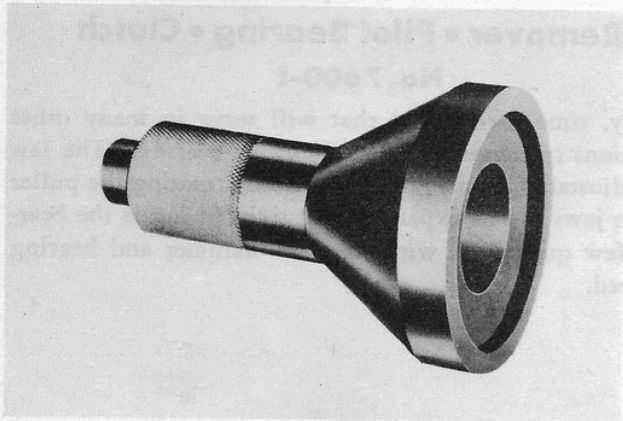
A thin forged wrench to quickly remove or replace the overdrive governor. Handle is bent at the correct angle to provide accessibility to governor.



Remover • Main Shaft Bearing • Overdrive
No. 7025-B

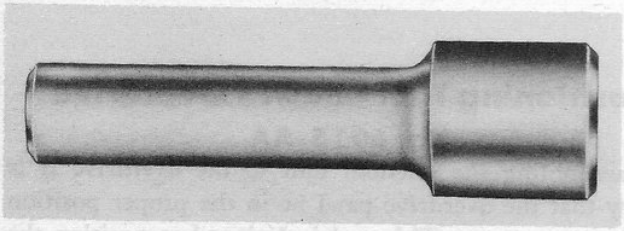
A properly designed "press" type tool, properly hardened for long life. Lips and opening properly ground to get in the restricted space under the bearing and (with hydraulic press) to remove the bearing from the shaft.
A real time saver and the only way to remove the bearing without damage.

NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.



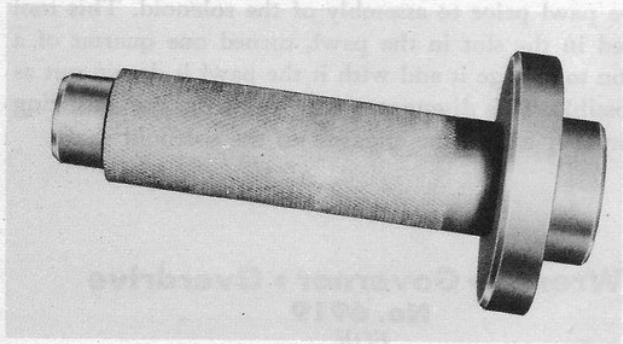
Replacer • Oil Seal • Drive Shaft, & Overdrive
No. 7052-A

This handy tool quickly replaces the oil seal without damage. Specially designed to fit over the shaft thus assuring perfect alignment. Tool has a knurled grip, reduced knocker head diameter and is hard bright nickel plated to resist corrosion.



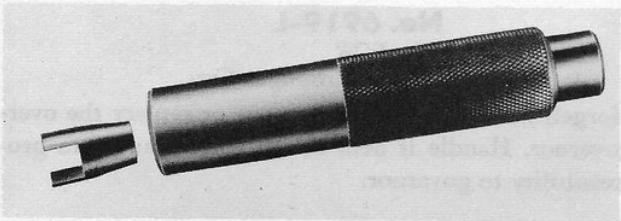
Pilot • Main Shaft Front Bearing • Overdrive
No. 7118

A "must" tool and a real time saver when removing or replacing this bearing. Well machined and fully cadmium plated.



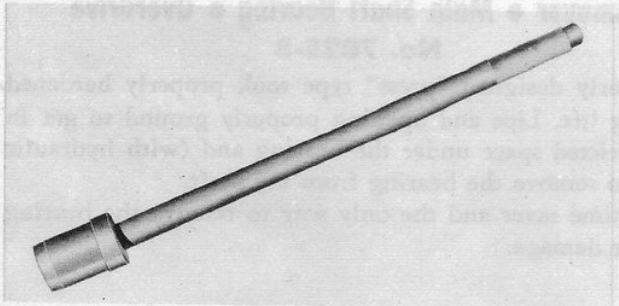
Replacer • Oil Seal • Overdrive
No. 7657-A

Makeshift methods of installing oil seals are always costly from an overall viewpoint and an improperly installed seal frequently results in damage to other more costly parts. Don't take chances when thru use of this inexpensive tool, the job is done properly and in the shortest possible time. Pilot head is accurately machined to center and size the retainer. Handle has knurled handgrip and reduced diameter knocker head. Tool is plated for corrosion resistance.



Replacer • Lockout Lever Oil Seal • Overdrive
No. 7688

A well designed tool to replace the oil seal without damage to the seal itself or to adjacent parts. Made of hardened steel to withstand rough treatment and is hard bright nickel plated for easy cleaning and to resist corrosion.



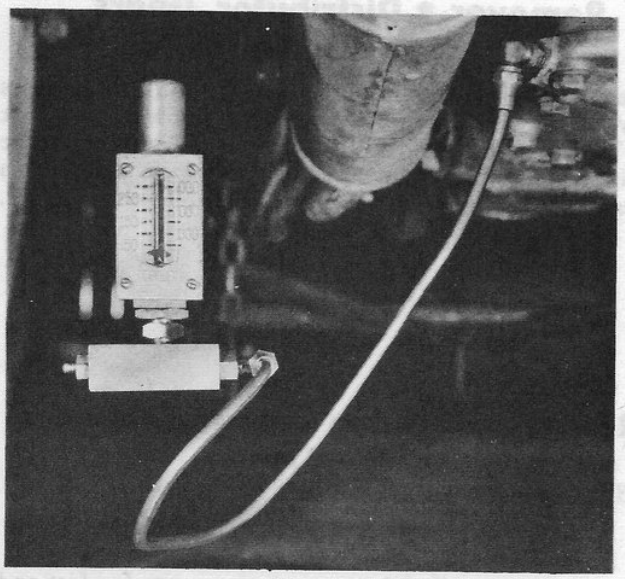
Remover & Replacer • Rear Bushing • Overdrive
No. 7697

FOR 1949-1950 Lincoln

Remover & Replacer • Needle Bearings • Overdrive
No. 7698

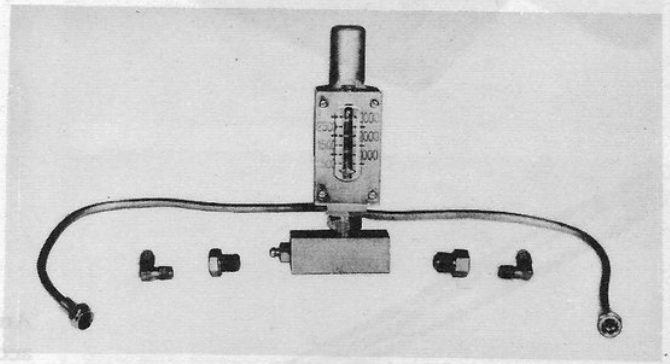
1939-1948 Lincoln

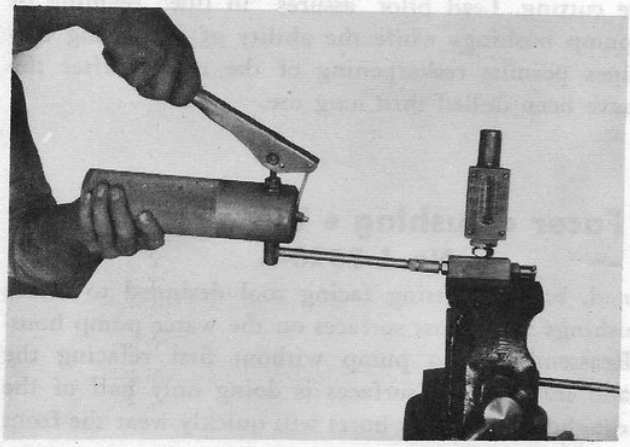
This factory approved tool both removes and installs the rear bushing quickly and effectively. The tapered pilot head is accurately machined to hold and size the bearing when being inserted. Handle is extremely long to reach down in and has knurled handgrip and reduced diameter knocker head. Cadmium plated to resist corrosion.



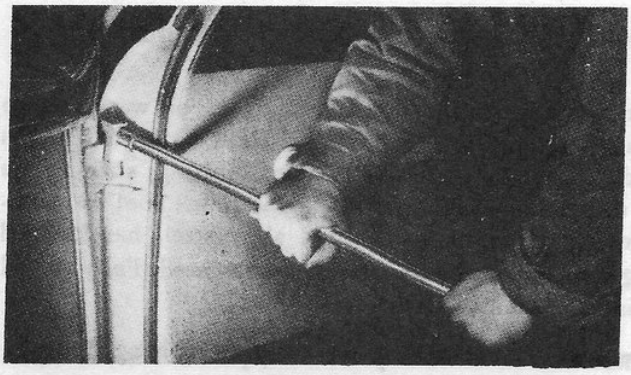
Testing Gage • Hydraulic Pump • Tractor Engines
No. 0600

Here is the instrument all Ford Tractor Service men have been waiting for. This testing gage is of rugged construction for maximum durability. Designed for use in the shop or field.





This testing gage will test the hydraulic pump installed in the tractor as shown in the upper left picture, or it can be used as shown in the lower left picture to test the relief valve—thereby eliminating all guesswork. Every shop should have this testing gage to insure proper functioning of the hydraulic system.

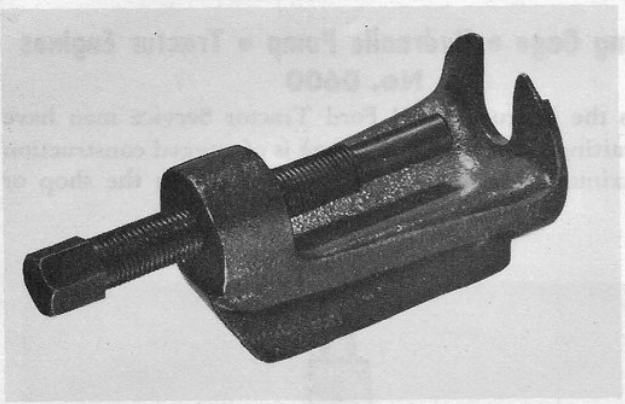


Adjusting Bar • Hinge • Door
No. 0680-A

This one piece drop forged tool enables fast adjustment of door fits. Head is designed to allow bending of hinge without removing door.

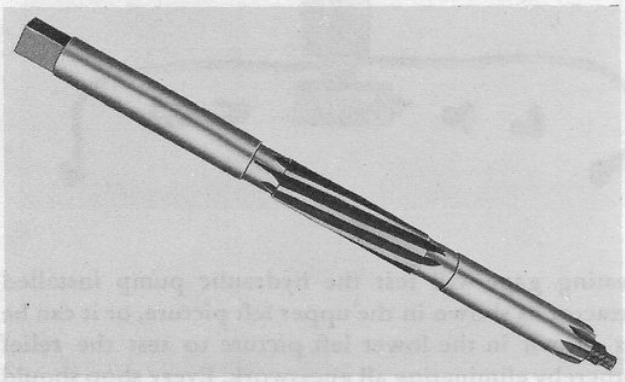
Remover & Repl. • Convertible Top Relief Valve
No. 0736-A

As a Surgeon needs forceps, on this operation the mechanics need this tool. The outwardly expanding end securely grips the relief valve for installation or removal from pump assembly. Its use eliminates damage to the valve when inserting and is a real time saver.



Remover • Distributor Gears
No. 12390-B

This heat treated tool easily pulls the distributor drive gears quickly. A specially designed tool body protects the Jack Screw Thread during the pulling operation and keeps the screw in perfect alignment. Designed to use in a vise, this tool performs its operations in a speedy and effective manner.



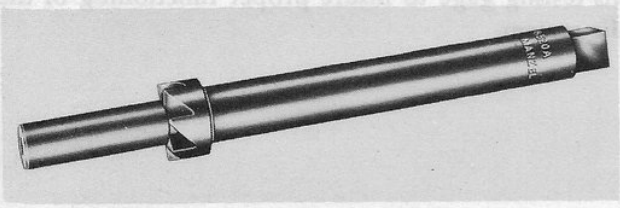
Reamer • Bushing • Water Pump
No. FM-8520

1939-1948 Mercury • 1939-1948 Ford Passenger Car

No. L-8520

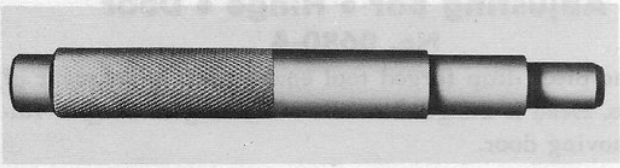
For: 1939-1948 Lincoln

An expansion type, piloted water pump reamer for fast and accurate cutting. Lead pilot assures "in line" reaming of water pump bushings while the ability of expanding cutting edges permits resharpening of the reamer after the edges have been dulled thru long use.



Facer • Bushing • Water Pump
No. L-8520-A

A piloted, bottom cutting facing tool designed to reface new bushings and thrust surfaces on the water pump housings. Reassembly of a pump without first refacing the outer and inner thrust surfaces is doing only half of the job as roughened bosses or burrs will quickly wear the front thrust washer.

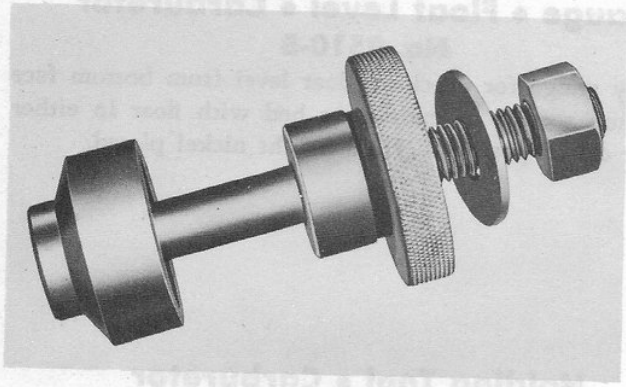


Remover & Replacer • Bushing • Water Pump
No. 8520-B

This tool is a necessity for replacement of water pump bushings and does the job fast and right. It both removes the old bushing and replaces the new bushing; sizing same so as to eliminate the reaming operation. Tool is precision machined from heat treated alloy steel, has knurled hand grip and reduced diameter knocker head. Fully plated to resist corrosion.

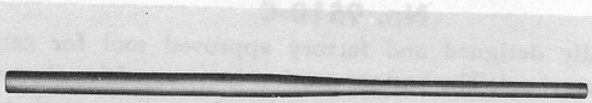
Remover • Seal & Cup Assembly • Water Pump
No. 8564-A

An inexpensive, bore fitting tool, designed to remove seal and cup assembly without damaging the pump housing. Solid heat treated steel, reduced diameter knocker head. Knurled hand grip and hard bright nickel plated to resist corrosion.



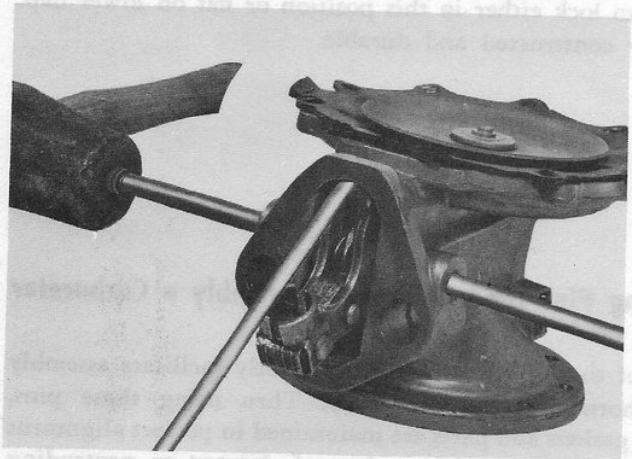
Replacer • Seal & Cup Assembly • Water Pump
No. 8564-B

For rapid, leak-proof installation of water pump seals, this tool is the answer. Designed to factory requirements, seals are inserted with insertion force being exerted only on the outer portion of the case. Seal and pulling head are guided evenly into the bore by an accurately machined pilot insert, knurled for ease of handling. Entire tool is hard nickel plated for corrosion resistance. This tool is designed for new-type seal with bronze liner or sleeve.



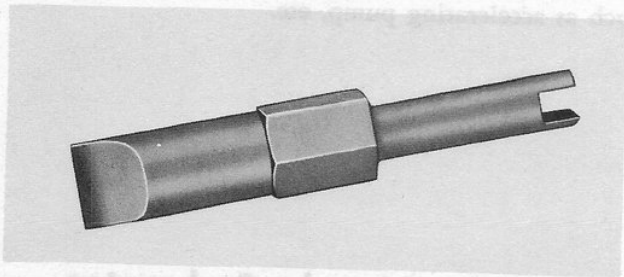
Assembly Tool • Rocker Arm Pin • Fuel Pump
No. 9350

The Assembly Tool is used in the assembly of fuel section diaphragms to avoid oil seal damage.



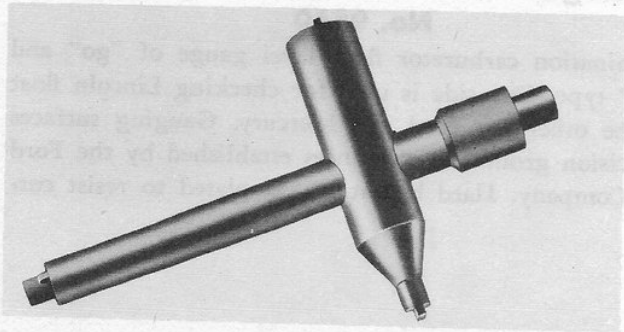
Flexing Tool • Vacuum Diaphragm • Fuel Pump
No. 9350-A

The Flexing Tool is used to hold the vacuum diaphragm level until cover is loosely installed. Removal of tool then automatically flexes diaphragm. Full instructions covering the use of 9350 and 9350-A tools are given in the A.C. shop manual.



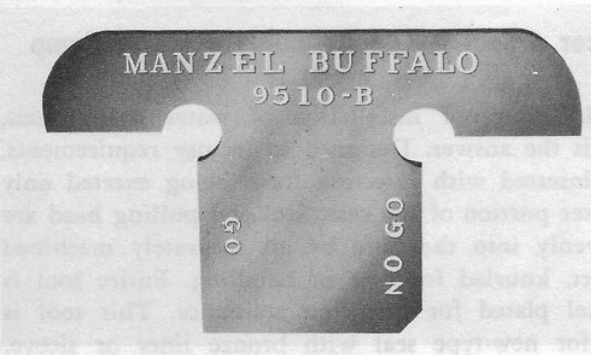
Wrench • Fuel Jet • Carburetor
No. FM-9510

For use in installing fuel jet on Stromberg Carburetors. One end has sturdy screw driver end for plugs—opposite end is slotted and reduced in diameter to fit the jets. Made from ½ inch hex high strength hardening steel to enable use of a ½ inch open end wrench assuring tight leak-proof installations.



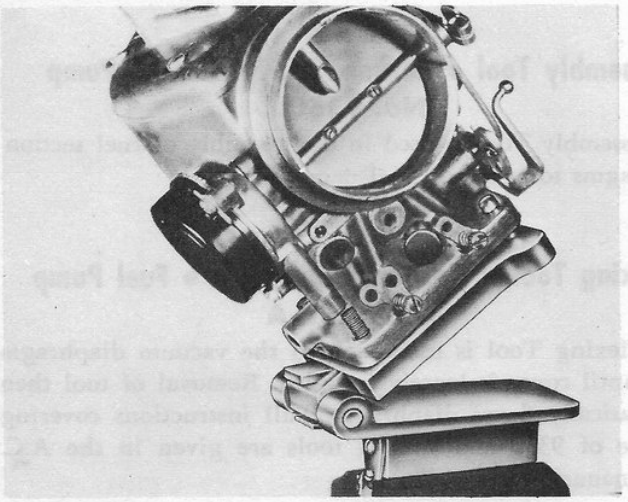
Wrench • Fuel Jet • Carburetor
No. FLM-9510-A

A time saving, job designed, four way carburetor jet wrench that speeds up carburetor overhaul and guarantees against damage to jets thru use of improper sized screw drivers, etc. Made from heat treated steel and nickel plated, this tool will quickly pay for itself in increased job efficiency among your quick service mechanics.



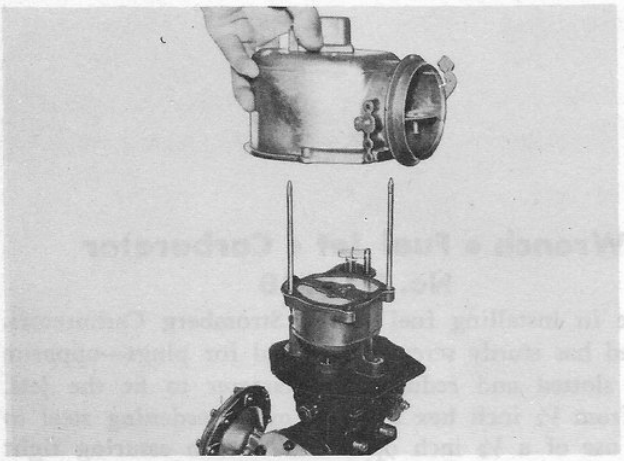
Gauge • Float Level • Carburetor
No. 9510-B

A handy gauge for checking float level from bottom face of the top section of carburetor bed with float in either open or closed position. Hard bright nickel plated.



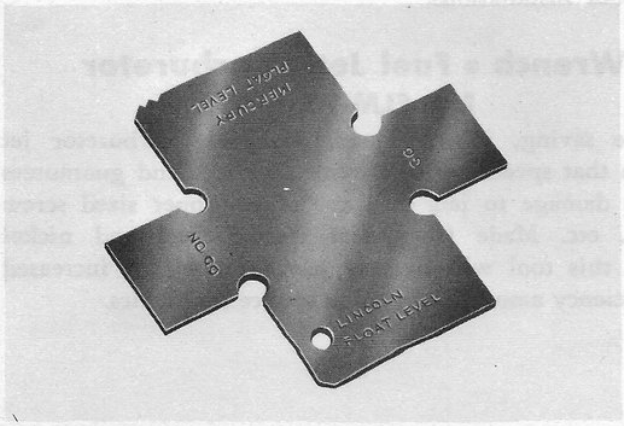
Holding Tool • Carburetor
No. 9510-C

A specially designed and factory approved tool for carburetor overhaul. The bottom portion is arranged for clamping in a vise. The upper flap is hinged to allow work to be done on the butterflys, when in an upright position. This flap will move 20° over vertical center and is spring loaded to lock either in this position or flat on lower flap. Sturdily constructed and durable.



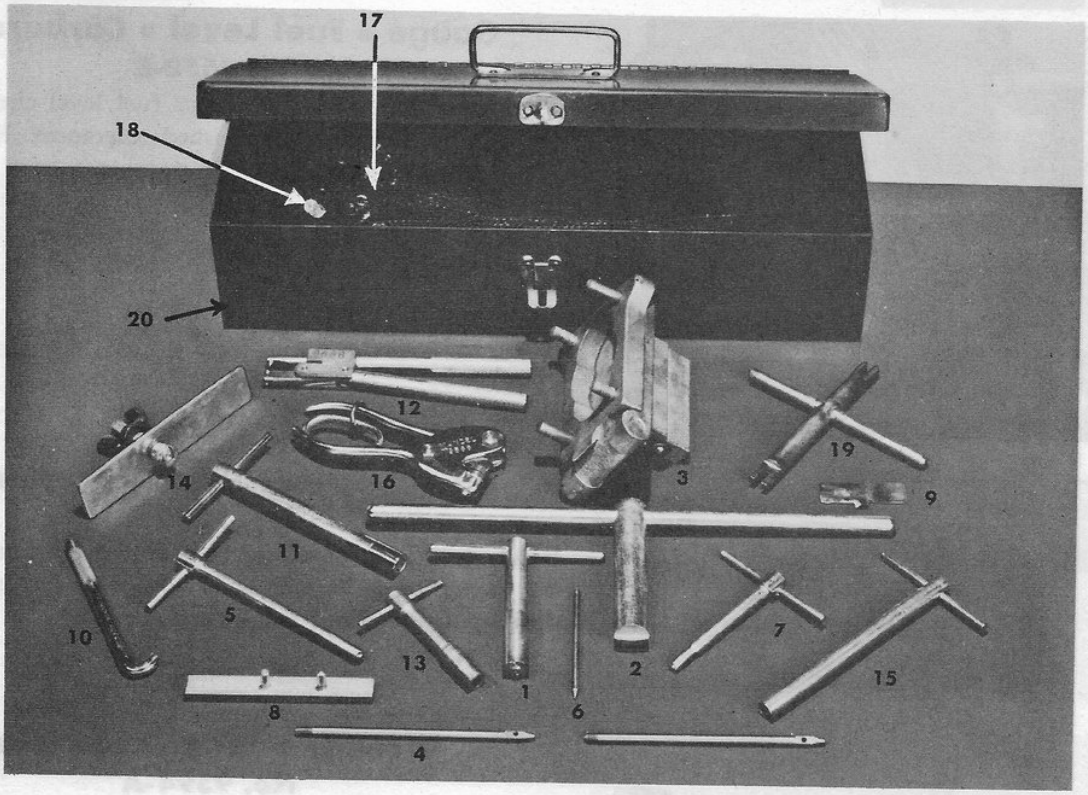
Aligning Pins (Pr.) • Airhorn Assembly • Carburetor
No. 9524

A set of these piloting pins will greatly facilitate assembly of airhorn to carburetor body. Thru using these pins, the six gaskets and parts are maintained in perfect alignment ready for bolting without fear of damage to protruding parts; such as accelerating pump, etc.



Gauge • Float Level • Carburetor
No. 9550

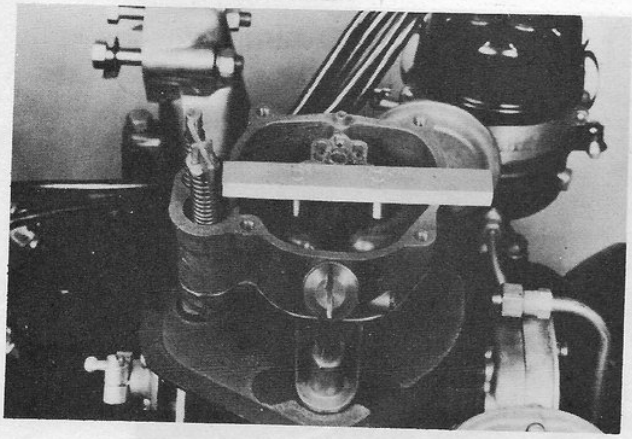
A combination carburetor float level gauge of "go" and "no go" type. One side is used for checking Lincoln float level, the other for Ford and Mercury. Gauging surfaces are precision ground to tolerances established by the Ford Motor Company. Hard bright nickel plated to resist corrosion.



CARBURETOR SERVICING TOOLS

ITEM NO.	TOOL NO.	NAME	CARBURETOR MODEL: FORD 6-CYL. PASS. CAR & TRUCK	FORD V-8 1934 TO 1950	FORD F7 & F8 TRUCK	LINC. & MERC.	TWIN COACH BUS	WHITE TRUCK	MACK TRUCK
			847-F	AA-1	885-FFG	885-FFC	AA-1G	852-FFG	885-JJSG
1	9510-AA	Wrench—Power Valve	X		X	X		X	X
2	9510-BB	Wrench—Float Needle Seat Cap			X	X			
3	9510-C	Holding Tool			X	X		X	
4	9524	Aligning Pins (Pr.)—Airhorn Assembly			X	X			
5	9533	Wrench—Main Metering Jet	X	X	X	X	X	X	X
6	9541	Seating Tool—Idle Adjusting Needle	X	X		X			
7	9544	Wrench—Idle Tube			X	X			X
8	9550-B	Gauge—Fuel Level			X	X			
9	9550-D	Gauge—Float Level			X	X			
10	9550-E	Bending Tool—Float Level			X	X			
11	9564	Wrench—Float Level Seat	X	X	X	X	X	X	
12	9586	Staking Tool—Butterfly & Choke Valves	X	X	X	X	X	X	
13	9631	Wrench—Pump Rod Stud			X	X	X	X	
14	9904-B	Remover—Economizer Piston & Stem			X	X			
15	9904-C	Replacer—Economizer Piston & Stem	X		X	X		X	X
16	9956	Pliers—Sealing—Governor	FOR ALL MODEL CARBURETORS EQUIPPED WITH GOVERNORS						
17	9956-A	Wires—Sealing Governor							
18	9956-B	Discs—Sealing—Governor							
19	12150-D	Wrench & Arm Bender—Adjusting—Distributor	ALL PRESSURE DISTRIBUTORS						
20	9510-D	Metal Box—For above tools							
	9510-GG	Complete Kit—Less Box							
	9510-GGB	Complete Kit—With Box							

5% cash discount on 6510-GG and 6510-GGB if cash with order

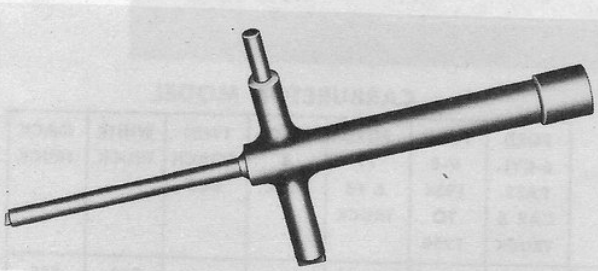


Gauge • Fuel Level • Carburetor
No. 9550-B

A pin type gauge for carburetor fuel level checking. Precision built to factory established tolerances. Hard bright nickel plated to resist corrosion.

Gauge • Float Level • Carburetor
No. 9550-C

Handy gauge for checking float level from bottom face of top section of carburetor body with float in either open or closed position. Hard bright nickel plated.

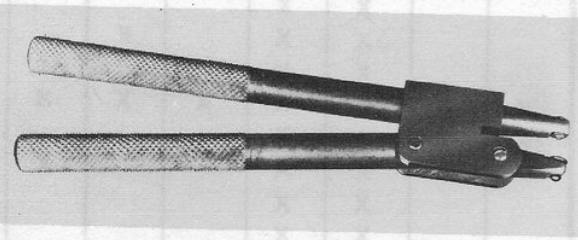


Wrench • Jet • Carburetor
No. 9594-A

An efficient four-way wrench designed specifically for use on the following Holley Carburetor parts:

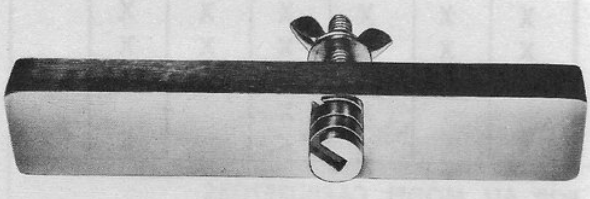
1. Main Metering Jet
2. Power Jet Valve Seat
3. Idle Tube Head
4. Air Bleed

Wrench is precision machined from heat treated alloy steel and is nickel plated to resist corrosion. Don't damage delicate carburetor parts by attempting to use improperly fitting screw drivers.



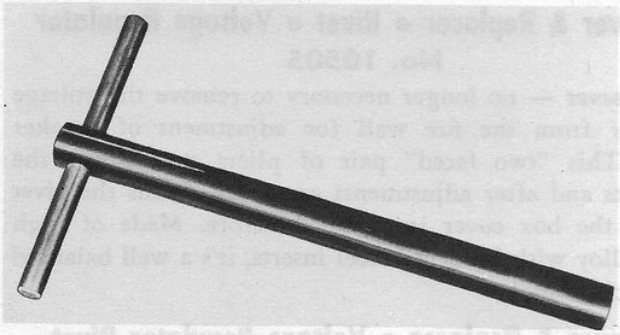
Staking Tool • Butterfly and Choke Valves • Carburetor
No. 9586

A specially designed plier type tool to effectively and quickly stake the butterfly and choke valve attaching screws. This tool will do its job without damaging the valves or bending the shafts. A real time saver.



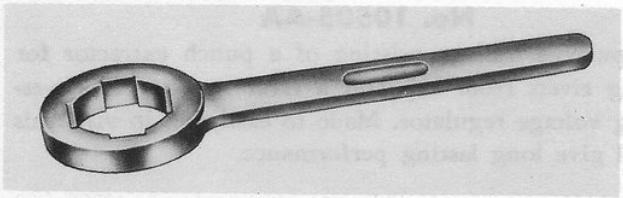
Remover • Economizer Piston and Stem • Carburetor
No. 9904-B

A simple effective tool to remove the Economizer Stem Assembly without damage to the assembly or the receiving bore. Easy to operate and made to closely fit the stem. The plate rests on the carburetor bowl to insure a steady pull, which is made easier by the large size wing nut.



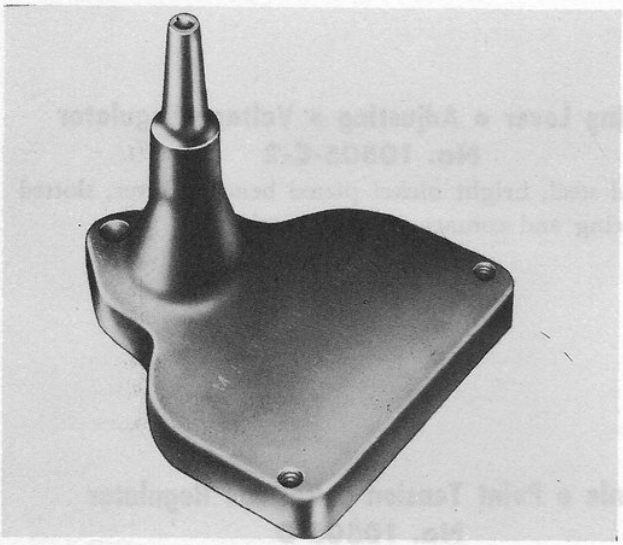
Replacer • Economizer Piston and Stem • Carburetor
No. 9904-C

A specially designed tool to fit over the spring loaded stem to press against the larger portion of this assembly, to quickly replace it without damage. Hard bright nickel plated to resist corrosion.



Wrench • Economizer Valve • Carburetor
No. FLM-9904

A well made, forged steel wrench that mates with the head of the economizer valve. Use the tool that assures a tight installation and thereby full gas economy to your customer.

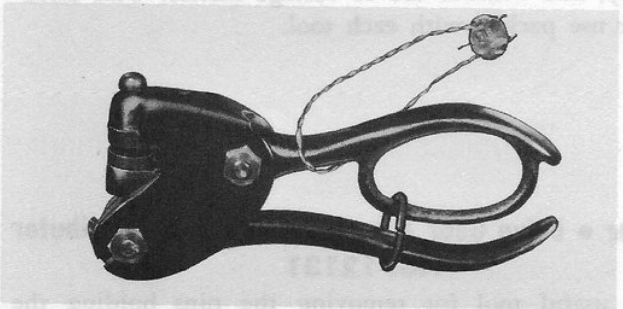


Testing Tool • Economizer Valve • Carburetor
No. 9904-A

Gasoline economy is only assured when economizer valve diaphragm seals perfectly or when there are no faulty threads or pin holes thru the body casting. A few minutes with this simple testing unit guarantees a satisfied customer. Test is made as follows:

1. After economizer valve is installed, seal off bottom of body by attaching rubber gasket and test unit with standard carburetor screws. 2. Use vacuum pump on Distributor Testing machine and set vacuum to 20 or 21 inches by holding thumb over end of vacuum hose. 3. Attach vacuum hose to end of test unit and check reading. 4. A reading of the original setting shows a tight assembly. A reading lower than the original setting shows a faulty economizer valve or leak thru threads, etc.

(Be sure test unit and gasket are drawn snugly to carburetor body to form an air tight assembly.)



Sealing Tool • Governor • Engine
No. 9956

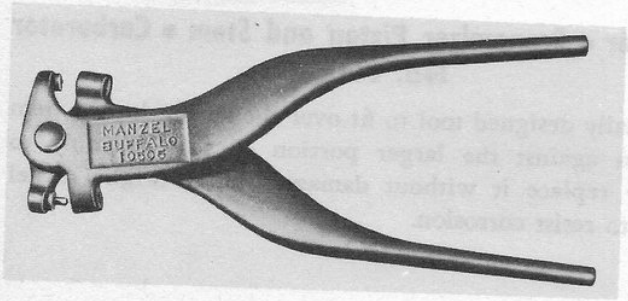
For All Ford Truck Governors

No. 9956-A WIRES FOR ABOVE (100)

No. 9956-B DISCS FOR ABOVE (100)

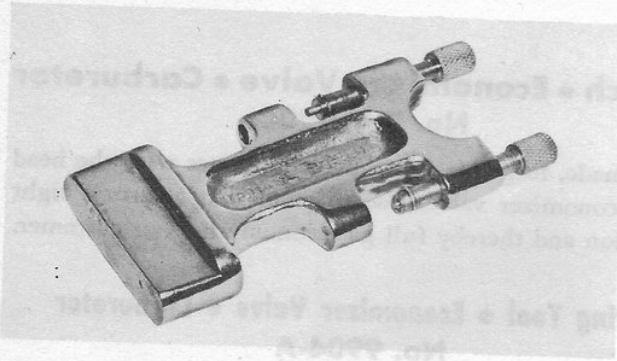
A powerful plier tool complete with serialized die for compressing and imprinting lead seals on sealing wires. Each tool has its own serial number die, and that number is assigned to the dealer possessing tool. Only one tool allowed each dealer.

NOTE: For Vehicle Applications Refer to Model Index in front of Manual. For Prices see Colored Price List.



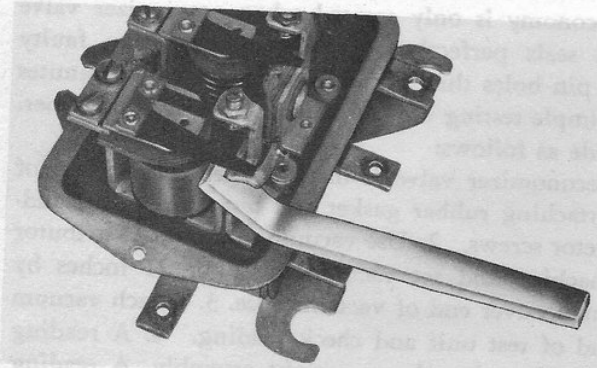
Remover & Replacer • Rivet • Voltage Regulator
No. 10505

A time saver — no longer necessary to remove the voltage regulator from the fire wall for adjustment of breaker points. This "two faced" pair of pliers presses out the old rivets and after adjustments are made, forms the rivet to hold the box cover in place as before. Made of high tensile alloy with hardened steel inserts, it's a well balanced and efficient tool.



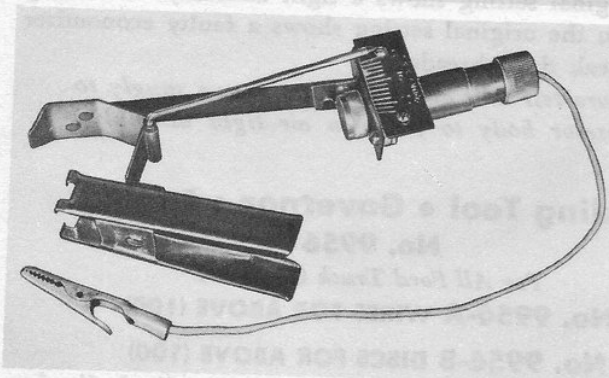
Remover & Replacer • Voltage Regulator Rivet
No. 10505-AA

A two purpose tool—consisting of a punch extractor for removing rivets from cap and a rivet re-setter for re-assembling voltage regulator. Made to easily set in vise, this tool will give long lasting performance.



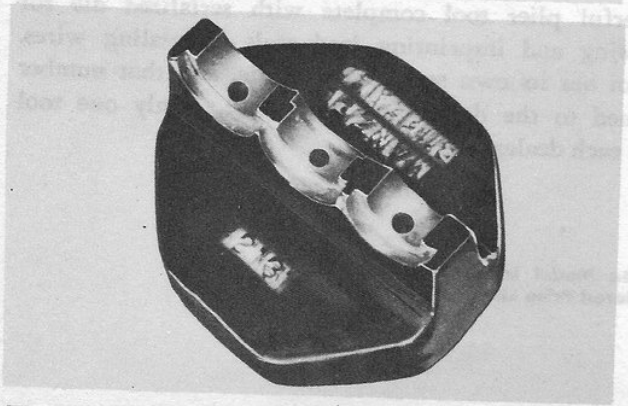
Bending Lever • Adjusting • Voltage Regulator
No. 10505-C-2

Hardened steel, bright nickel plated bending lever, slotted to fit spring and contact support brackets.



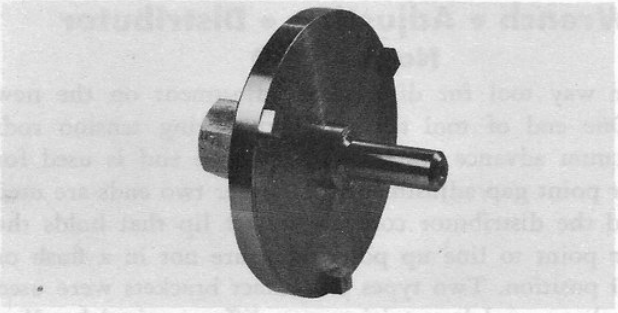
Scale • Point Tension • Voltage Regulator
No. 10505-D

The tool that eliminates 60% of battery failures. Gives quick easy method of checking proper breaking point more accurately, and without use of voltage meters. Full directions for use packed with each tool.



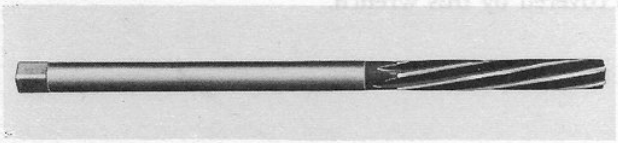
Remover • Drive Gear & Lock Collar Pin • Distributor
No. 12131

A very useful tool for removing the pins holding the distributor drive gear and lock collar. The half round top portion, sized to fit the different gears and collars fit snugly around these parts, allowing for easy and rapid pin removal without damage and distortion. Plated a hard bright nickel finish to resist corrosion.



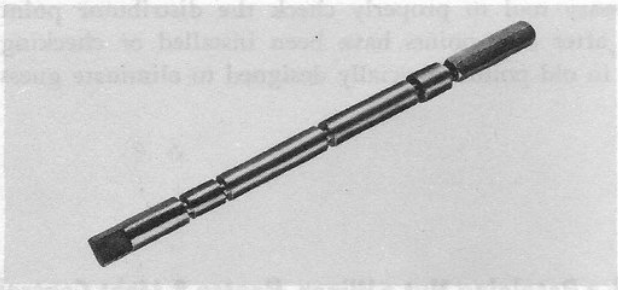
Counterbore Tool • Distributor
No. 12131-A

In order to incorporate the new distributor breaker cover (designed to seal out dirt) on older model distributors, a counterbore must be cut into the distributor base.
The tool accomplishes the operation quickly and accurately. It has a pilot to insure counterbore concentricity and also a shoulder which contacts bushing base when proper depth of counterbore has been reached.



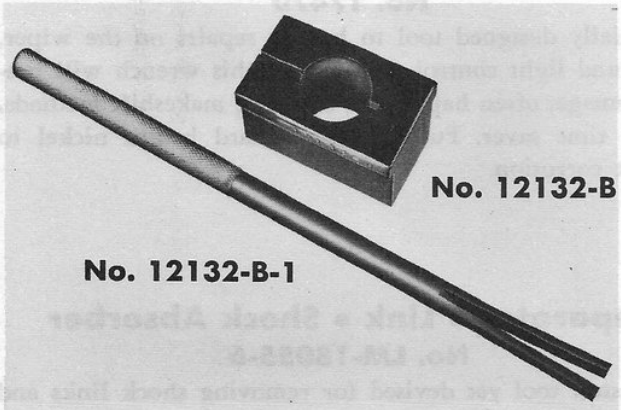
Burnisher • Shaft Bushing • Distributor
No. 12132

A handy and necessary tool to size the bushing after pressing into place, to insure the proper clearance with the distributor drive shaft. Simple to use and efficient.



Replacer • Shaft Bushing • Distributor
No. 12132-A

A specially designed tool to quickly replace the distributor bushing without damage to itself or adjacent parts. A tee handle is provided for easy action. Hard bright nickel plated to prevent corrosion.

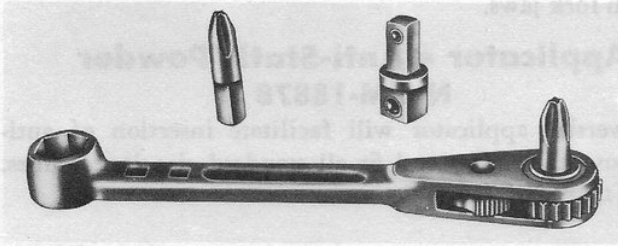


Holding Block • Distributor
No. 12132-B

The tool consists of a nickel plated steel compression block for holding the distributor body firmly in a vise. Its use eliminates possibility of warping drive shaft, damaging drive gear or distorting case such as often occurs when attempting to hold the assembly in a vise. The distributor is the heart of engine performance and should receive careful treatment.

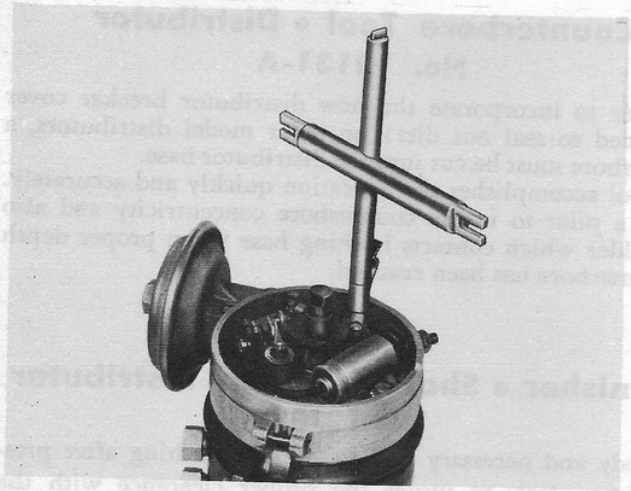
Remover • Shaft Bushing • Distributor
No. 12132-B-1

Spring steel split working face is readily inserted into the distributor shaft casing from top or bottom. After sufficient of the tool is inserted, outward expansion of the split face enables the tool to rest firmly behind the bronze bushing at the far end of the casing. A tap or two with a soft hammer quickly removes the bushing.



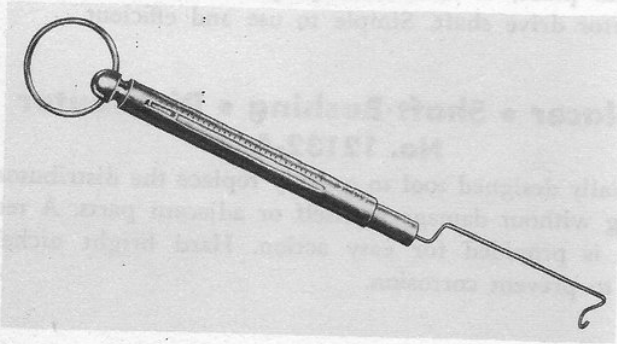
Wrench • Hinge Plate Tightening • Door
No. 22801

This close-quarter ratchet driver provides the answer to a pressing need. It is impossible to use the ordinary Phillip's head screw driver in the confined hinge-plate area of the doors — and yet the hinge screws must be tight for proper door adjustment. Tool comes complete with extra bit and adapter so that ratchet may be used for standard ⅜" sockets.



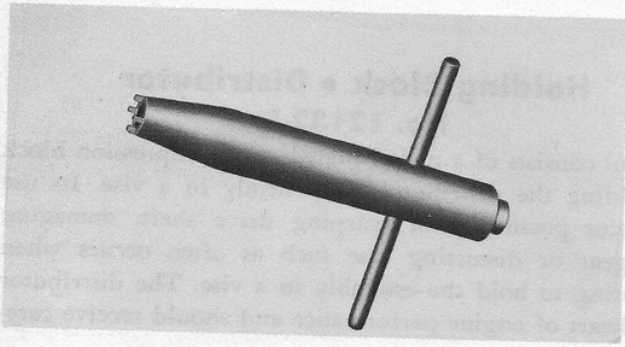
Wrench • Adjusting • Distributor
No. 12150-D

A four way tool for distributor adjustment on the new cars. One end of tool takes care of spring tension rods for vacuum advance adjustment, opposite end is used for breaker point gap adjustment. The other two ends are used to bend the distributor contact bracket lip that holds the breaker point to line up points that are not in a flush or parallel position. Two types of contact brackets were used on the above models requiring two different sized bending ends as covered by this wrench.



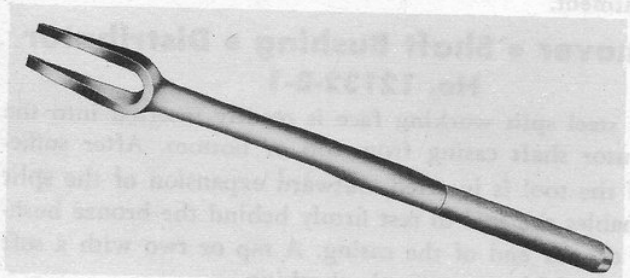
Scale • Point Tension • Distributor
No. 12151

A necessary tool to properly check the distributor point tension after new points have been installed or checking tension in old points. Specially designed to eliminate guess work.



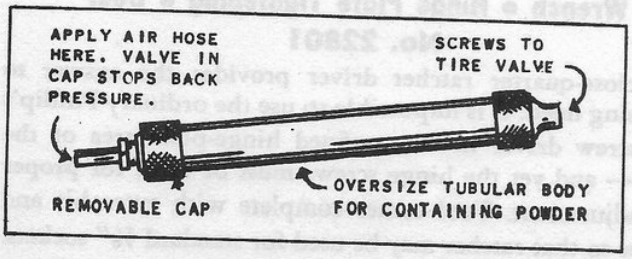
Wrench • Retaining Nut • Wiper, Heater & Light Control
No. 17470

A specially designed tool to handle repairs on the wiper, heater and light control. The use of this wrench will prevent damage, often happening by using makeshift methods. A real time saver. Fully plated a hard bright nickel to prevent corrosion.



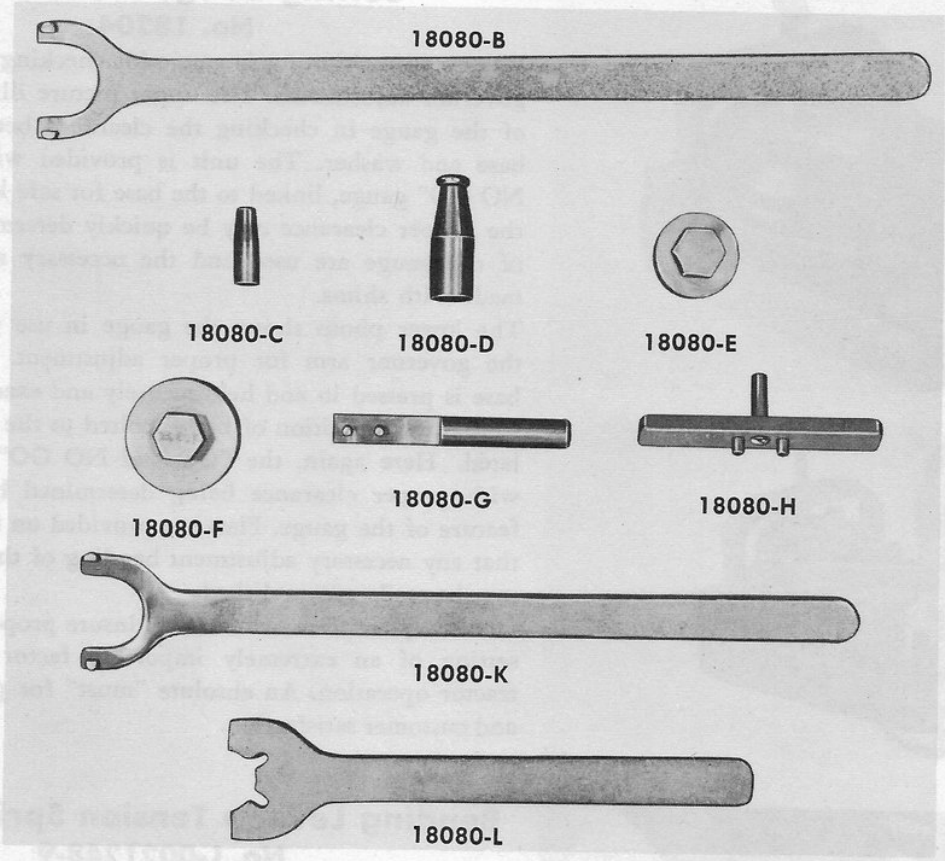
Separator • Link • Shock Absorber
No. LM-18055-6

The fastest tool yet devised for removing shock links and tie rod joints. After removing the nut from the tapered bolt holding the shock absorber link, insert wedge end of tool between link and arm. A few hammer blows on the end of the tool forces the tapered bolt out of the shock arm quickly and easily. Equally efficient for removing tie rod joints when used in the same manner. 12" long, 5/8" between fork jaws.


APPLY AIR HOSE HERE. VALVE IN CAP STOPS BACK PRESSURE.
SCREWS TO TIRE VALVE
REMOVABLE CAP
OVERSIZE TUBULAR BODY FOR CONTAINING POWDER

Applicator • Anti-Static Powder
No. M-18878

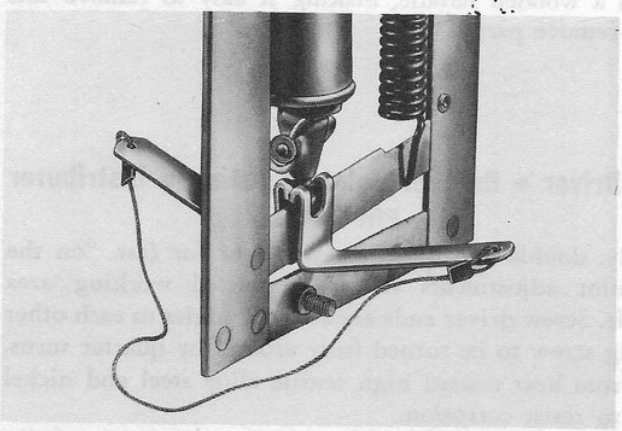
This oversize applicator will facilitate insertion of anti-static powder in tires and fit all standard size inner tubes. For all makes of Passenger cars.



Shock Absorber Tools

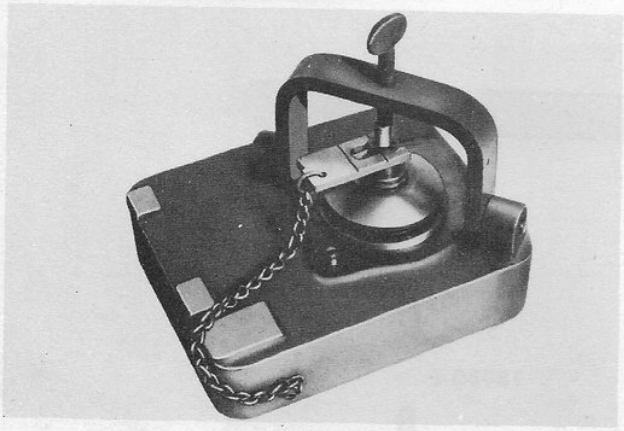
Part No.	Description
18080-B	Wrench - "E" Spanner (for Piston Rod & Seal Ass'y.)
18080-C	Thimble - "B" Packing
18080-D	Thimble - "E" Packing
18080-E	Wrench - "B" Piston
18080-F	Wrench - "E" Piston
18080-G	Wrench - "B" Adjusting Screw
18080-H	Wrench - "E" Adjusting Screw & Piston Rod Depth Gage Ass'y.
18080-K	Wrench - "B" Spanner
18080-L	Wrench - "E" Piston Stop Nut

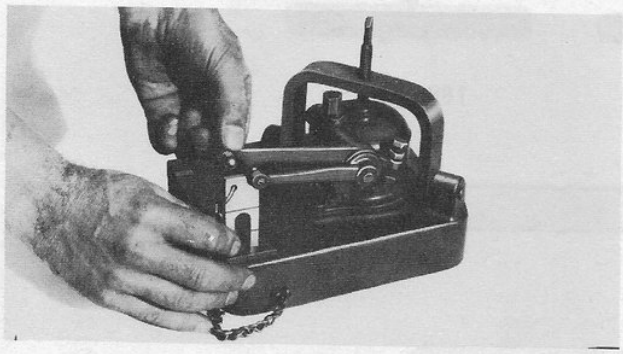
NOTE: Above tools for "GABRIEL" and "MONROE" Shock Absorbers applicable *to all makes of cars.*



Remover • Cylinder Holding Clip • Window No. L-5623200

It is practically impossible to remove the metal clip holding hydraulic cylinder to the window elevating mechanism without distortion, unless this tool is used. Tool is simple to use and is well constructed for many years service.



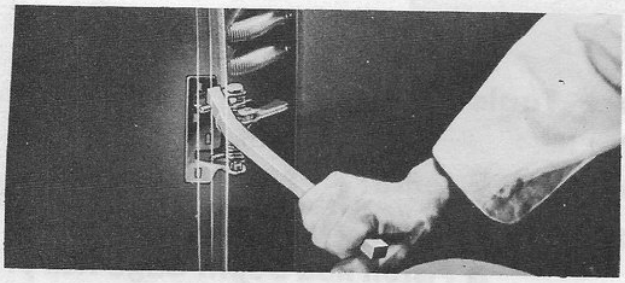


Setting Gauge • Governor
No. 18204

Here is a precision made gauge for checking and setting all governor adjustments. The upper picture illustrates the use of the gauge in checking the clearance between the fork base and washer. The unit is provided with a "Go and NO GO" gauge, linked to the base for safe keeping, so that the proper clearance may be quickly determined. The flats of the gauge are used and the necessary adjustments are made with shims.

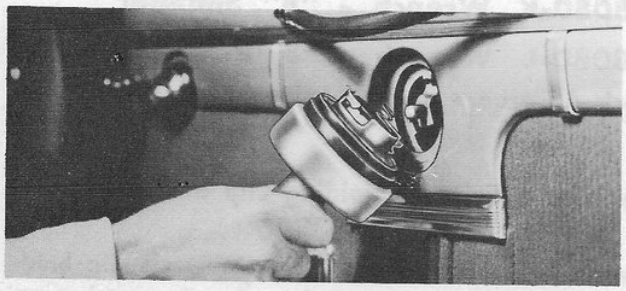
The lower photo shows the gauge in use while checking the governor arm for proper adjustment. The governor base is pressed in and held securely and exactly in position, so that the condition of being bolted to the engine is simulated. Here again, the "GO and NO GO" gauge is used with proper clearance being determined by the end-step feature of the gauge. Flats are provided on the unit base so that any necessary adjustment bending of the governor arm may be easily accomplished.

One complete unit—which will insure proper checking and setting of an extremely important factor in satisfactory tractor operation. An absolute "must" for proper servicing and customer satisfaction.



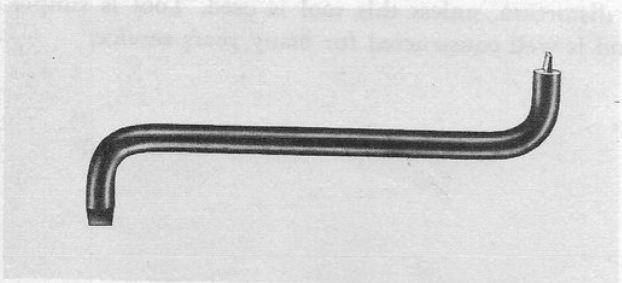
Bending Lever • Tension Spring • Door
No. L-0021248-9

A real time saver. This tool enables you to adjust door spring tensions as it is done at the factory without springing the door. Made of a high grade steel properly hardened, for long tough service.



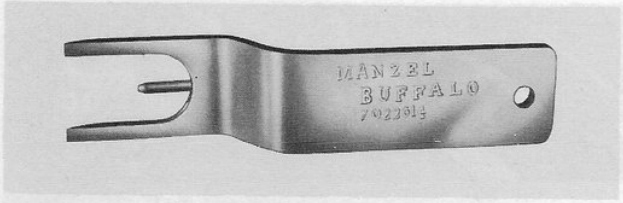
Remover • Opening Button (Inside) • Door
No. L-0022618

This tool is designed for removing the plastic ring around the door-opening push button. The cup is moulded rubber and has a wooden handle, making it easy to remove this hard-to-remove part.



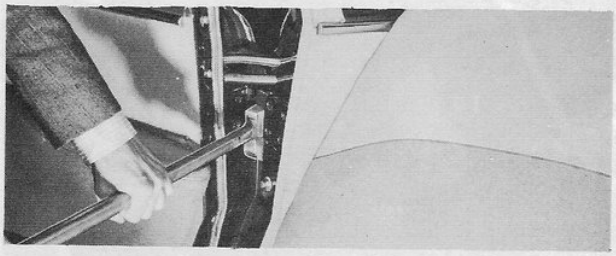
Screw Driver • Breaker Point Adjusting • Distributor
No. FM-31036

A handy, double end offset screw driver for fast, "on the car" point adjustments in the restricted working area available. Screw driver ends are at right angles to each other allowing screw to be turned fully around by quarter turns. Made from heat treated high tensile alloy steel and nickel plated to resist corrosion.



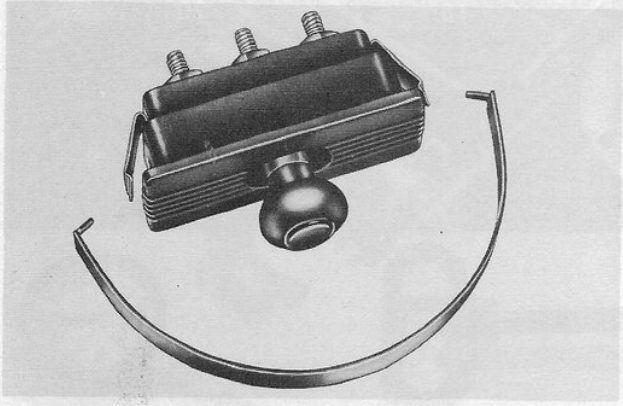
Remover & Replacer • Inside Handle Pin • Door
No. 7022614

There is no substitute for this unique tool. It is the only tool with which you can quickly depress the spring cover and remove or replace the door handle pin.



Adjusting Bar Hinge • Door
No. 7322800 Right Hand **No. 7322800-A** Left Hand

Now it is no longer necessary to remove damaged or misaligned doors to the hydraulic press. With this unique tool, you can safely and quickly bend hinges and refit doors while they are on the car. It's a MUST in the body shop, often saving four hours on a job.



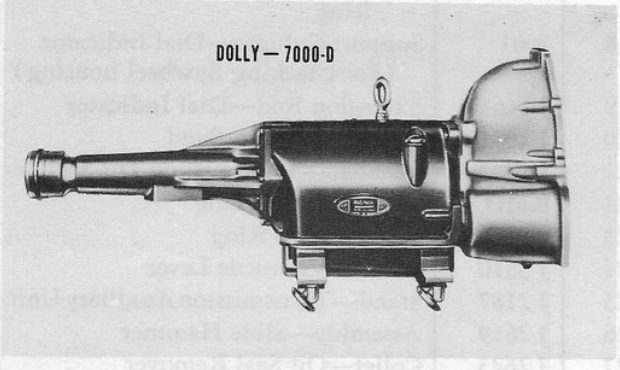
Remover • Regulator Switch • Window
No. L-7324206

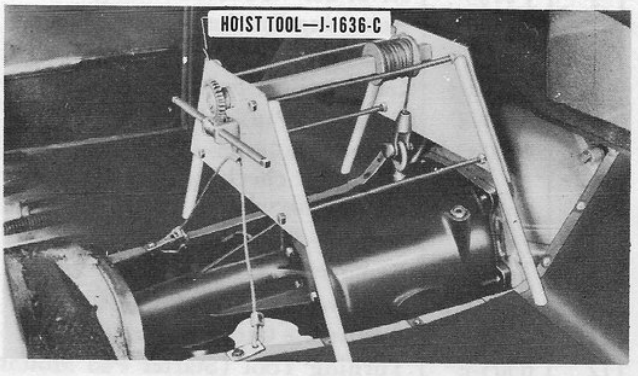
Designed to remove the switch with a minimum of effort. One hand position operation, and no need to touch upholstery with the hands. Will pay for itself on first job.

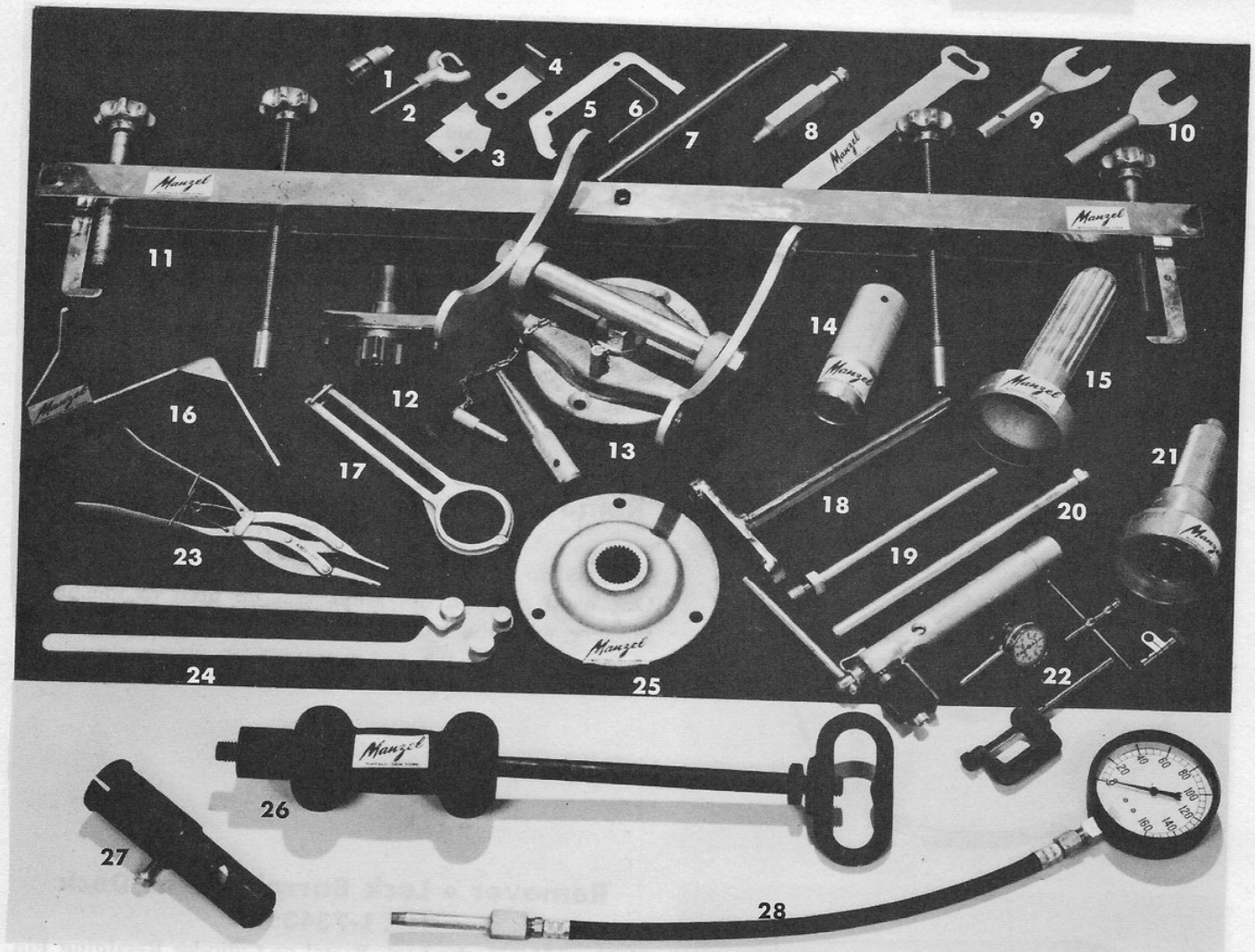
Remover • Lock Barrel • Rear Deck
No. L-7343505

Used to depress the Lock Barrel or Cylinder Retaining Pin in the rear deck. The small off-set ear reaches thru the opening and depresses the pin sufficiently to enable the cylinder to be removed by pulling on the key inserted in the lock.

Hydra-matic Transmission Tools





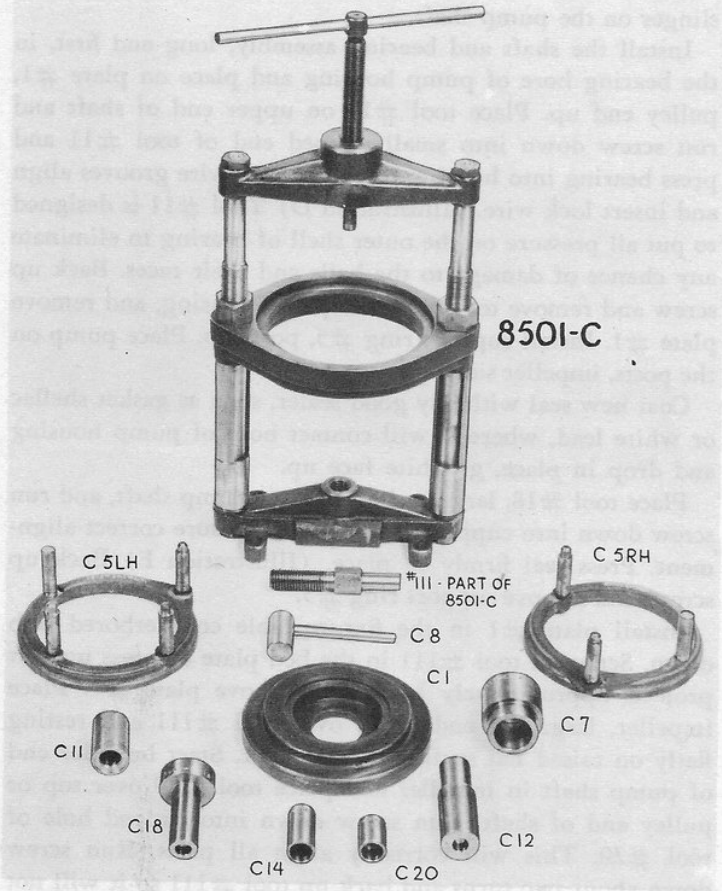


Hydra-matic Transmission Tools

M-701, complete Kit, itemized below, 5% discount if cash with order.

Item No.	Tool No.	Description
1	J 2184-A	Holder and Socket Set—Front Pump
2	J 2650	Gauge—Reverse Gear Backlash
3	J 2183	Rivet Set—Governor Flange
4	J 2174	Retaining Bracket—Rear Clutch Hub
5	J 5071	Gauge—Rear Servo
6	7000-B	Checking Pin — Throttle Linkage
7	7000-C	Support Column—Dial Indicator (For checking toros member and flywheel)
8	J 1693	Gauge—Front Servo
9	J 1458	Remover—"C" Washer
10	J 2182	Remover—"C" Washer
11	6000-H	Adjustable Carrier—Engine
12	6303-E	Turning Tool (Starter Pad Mounting)—Engine
13	J 2541	Holding Fixture—Transmission
14	J 2587	Guide—Mainshaft End Play
15	J 2170	Installer—Front Cover Oil Seal
16	J 3298	Gauge—Transmission Throttle Lever
17	J 1537	Compressor—Oil Delivery Sleeve Ring
18	7001	Support Column—Dial Indicator (For checking flywheel housing)
19	J 1465	Extension Rod—Dial Indicator
20	J 2681	Adjuster—Servo Band
21	J 1942	Installer—Transmission Oil Seal
22	KMO 30	Set—Dial Indicator
23	KMO 630	Pliers—Snap Ring
24	J 3310	Bender—Throttle Lever
25	J 2187	Stand—Transmission Auxiliary Unit
26	J 2619	Assembly—Slide Hammer
27	J 2623	Collet—Oil Seal Remover
28	J 2540	Gauge—Pressure Checking
29	J 1636-C	Hoist—Transmission (See page 99)
30	7000-D	Dolly—Transmission (See page 99)

Manzel



WATER PUMP REBUILDING KITS

Thoroughly Factory-Tested For Servicing *Every* Ford and Lincoln-Mercury Model

Here is the most *complete* line of water pump servicing kits, the most versatile, the most carefully engineered for safe, fast, easy operation. Manzel Kits are available for every Ford and Lincoln-Mercury built vehicle, including tractors, from 1937 up to and including 1950. We *guarantee* the units to disassemble and reassemble pumps without damaging Pulley, Rotor, Shaft, or Housing, when used in accordance with the clearly written instructions furnished with each kit.

Fixture table has but two vertical positions and is quickly adjusted by insertion of open spacers. (See illustration). It may be clamped into a bench vise or bolted to work bench — whichever is most convenient for your operation. An inexpensive metal storage box is available for storing adapter plates and fittings.

The following Instructions — for Kit 850-3 — are typical of those furnished with each kit

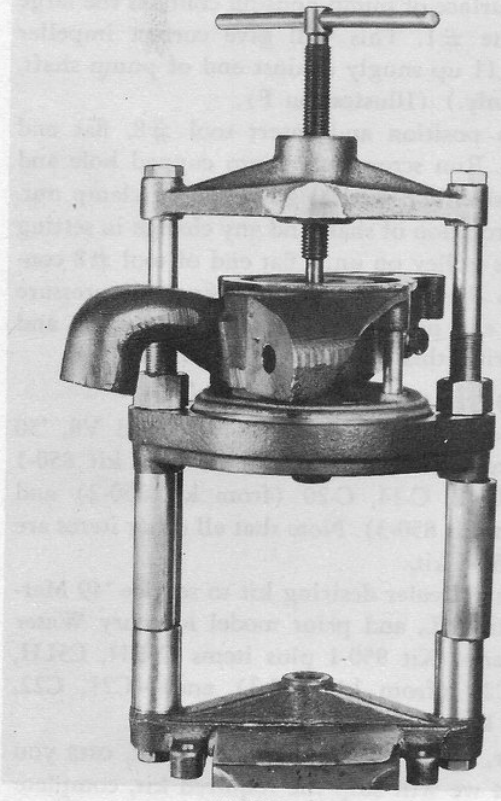


ILLUSTRATION A

TO DISMANTLE: With table in #1 (upper) position, place support ring #5 in the recess of the table with the posts up. (No. 5LH for Left Hand or 5RH for Right Hand Pump). Remove lock wire or bearing retainer. (In cases where the wire lock cannot be removed due to rust or other reasons, the fixture will cut wire thru without injury to the casting. Be certain all pieces are cleaned out before assembly.) Place pump on the support ring #5, pulley down, and run screw down against impeller end of pump shaft and press shaft out of impeller. (Illustration A) Back up screw. Remove impeller and complete pressing shaft, bearing, and pulley assembly out of housing. Back up screw. Remove pump housing and support ring #5. Install plate #1 counterbore down.

Install bearing in small end of tool #7 up to the inner end of pulley and install in the center hole of plate #1, pulley up. Run screw down and force shaft out of the pulley. (Illustration B) Back up screw and remove tool #7.

Drop table to #2 or lower position. Install tool #12, small end in bearing bore, and place pump housing on plate #1, pulley end up. Run the screw down into the cupped end of tool #12, and press out seal. (Illustration C) Back up screw, remove tool #12 and pump housing.

TO ASSEMBLE: Install new brass slinger in tool #14 and start down over long end of new pump shaft. Support shaft in a vertical position and tap tool #14 and slinger down over shaft until the end of the shaft contacts the inner end.

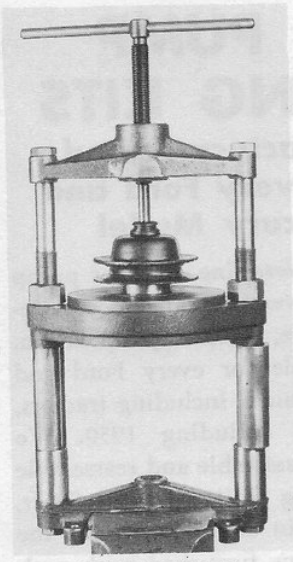


ILLUSTRATION B

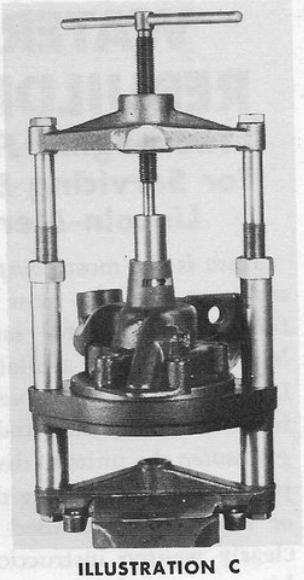


ILLUSTRATION C

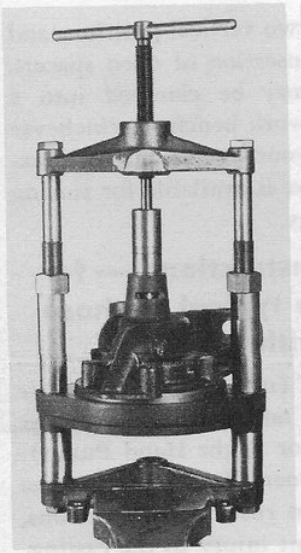


ILLUSTRATION D

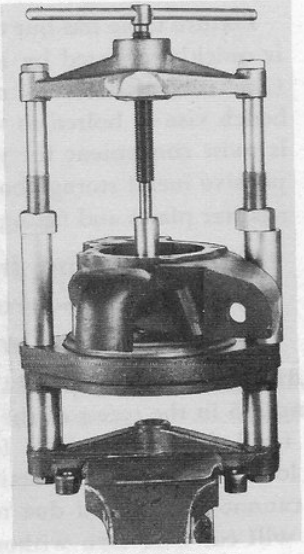


ILLUSTRATION E

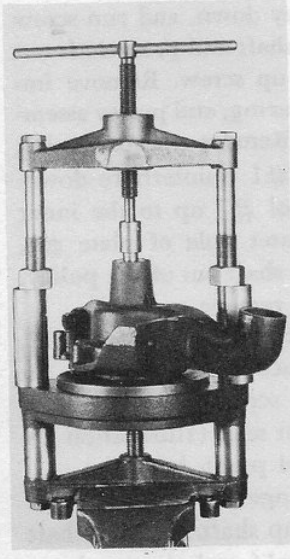


ILLUSTRATION F

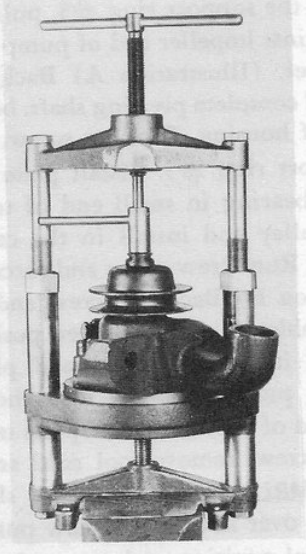


ILLUSTRATION G

of the bore of tool #14. This will correctly position the slinger on the pump shaft.

Install the shaft and bearing assembly, long end first, in the bearing bore of pump housing and place on plate #1, pulley end up. Place tool #11 on upper end of shaft and run screw down into small cupped end of tool #11 and press bearing into housing until the lock wire grooves align and insert lock wire. (Illustration D) Tool #11 is designed to put all pressure on the outer shell of bearing to eliminate any chance of damage to the balls and their races. Back up screw and remove tool #11, the pump housing, and remove plate #1. Install support ring #5, posts up. Place pump on the posts, impeller side up.

Coat new seal with any good sealer, such as gasket shellac or white lead, where it will contact bore of pump housing and drop in place, graphite face up.

Place tool #18, large end down over pump shaft, and run screw down into cupped hold; this will insure correct alignment. Press seal firmly in place. (Illustration E) Back up screw, and remove support ring #5.

Install plate #1 in the fixture table counterbored hub down. Screw in tool #111 in the bed plate of press until it projects approximately ¾″ to ⅞″ above plate #1. Place impeller, large flat end down over tool #111 and resting flatly on raised flat surface of plate #1. Start impeller end of pump shaft in impeller and place tool #20 over top or pulley end of shaft. Run screw down into cupped hole of tool #20. This will correctly align all parts. Run screw down about two turns and back up tool #111 so it will not obstruct full depth of shaft. Press shaft into impeller until the flat machined surface of pump housing contacts the large flat surface of plate #1. This will give correct impeller depth. Run tool #11 up snugly against end of pump shaft. (Finger pressure only.) (Illustration F).

Install pulley in position and insert tool #8, flat end against pulley hub. Run screw down into cupped hole and place handle against either vertical guide bar or clamp nut. This will prohibit rotation of shaft and any change in setting of tool #111. Press pulley on until flat end of tool #8 contacts end of pump shaft. Tool #111 confines all pressure to the pump shaft and protects the bearing, lock wire, and pump housing, during this operation. (Illustration G).

Instructions for Ordering

A Ford Dealer desiring kit to service '49 Ford V8, '50 Ford V-8, and Ford Truck 8EQ orders the base kit 850-1 plus items C-11, C-12, C-14, C-20 (from kit 850-2) and C5RH, C5LH (from kit 850-3). Note that all other items are duplicated in the 850-1 kit.

A Lincoln-Mercury Dealer desiring kit to service '49 Mercury, '49-50 Lincoln 8EL, and prior model Mercury Water Pumps would order — Kit 850-1 plus items C5RH, C5LH, C11, C12, C14, C20 (from kit 850-3) and — C21, C22, C23AB, C24 (from kit 850-5).

Or if you prefer, check off on the order form, cars you wish to service and we will ship the required kit, complete without duplication of adapter fittings.

Manzel

"AUTHORIZED" WATER PUMP SERVICING KITS

Many of the components are duplicated in the various kits, as may be seen in the Table of Parts below. For convenience of ordering, check the cars you wish to service and we will ship the composite group required without duplication of components.

(.....) **1949 Ford V-8**
(.....) **1950 Ford V-8**
(.....) **1949 Mercury**
(.....) **1950 Mercury**
(.....) **1948-50 Ford Truck 8EQ**
(.....) **1949-50 Lincoln 8EL**
(.....) **Late 1948, 1949, 1950 Ford 6 Cyl.**
(.....) **1937-1948 Ford V-8**
(.....) **1939-1948 Mercury**
(.....) **1949 Ford Tractor**
(.....) **1939-1948 Ford Tractor**
(.....) **8501-CB Metal Box**
Component Storage

Of if you Prefer You Can Order Composite Kit by Circling Parts Desired

KIT NO.		850-1	850-2	850-3	850-4	850-5	850-6	850-7
CARS USED ON		'49 FORD V-8 MERCURY 8BA 8RT 8CM	'50 FORD V-8 '50 MERC.	'48-'50 FORD TRUCK 8EQ '49-'50 LINCOLN 8EL	LATE '48 '49, '50 FORD 6 CYL. 7HT 7HA 8HA	'37-'48 FORDV-8 '39-'48 MERC.	'49 FORD TRACTOR	'39-'48 FORD TRACTOR
Part No.	Description							
8501-C	Water Pump Assembly & Disassembly Fixture	X	X	X	X	X	X	X
8501-C1	Universal Assembling & Disassembling Plate	X	X	X	X	X		
8501-C2	Universal Assembling & Disassembling Plate						X	X
8501-C3	Assembling & Disassembling Ring				X			
8501-C4L/R	Left & Right Assembling & Disassembling Ring	X	X			X		
8501-C5RH	Right Hand Assembling & Disassembling Ring			X				
8501-C5LH	Left Hand Assembling & Disassembling Ring			X				
8501-C6	Remover & Replacer-Bronze Bushing & Seal Rem'v'r	X						
8501-C7	Remover & Replacer - Bearings & Pulleys	X	X	X	X		X	X
8501-C8	Replacer - Pulley to Shaft	X	X	X	X	X		X
8501-C9	Replacer - Hub & Pulley						X	
8501-C10	Replacer - Bearing & Shaft in Housing	X						
8501-C11	Replacer - Bearing & Shaft in Housing		X	X	X		X	
8501-C12	Remover - Seal		X	X	X		X	
8501-C13	Replacer - Slinger to Shaft	X						
8501-C14	Replacer - Slinger to Shaft		X	X	X		X	
8501-C18	Replacer - Seal	X	X	X	X		X	
8501-C19	Replacer - Shaft to Impeller	X						
8501-C20	Replacer - Shaft to impeller		X	X	X		X	X
8501-C21	Replacer - Shaft to Impeller					X		
8501-C22	Assembling & Disassembling Post					X		
8501-C23AB	Remover & Replacer - Bushing					X		
8501-C24	Remover - Pulley					X		
8501-C25	Remover - Bushing							X
8501-C26	Replacer - Bushing							X
8501-CB	Storage Box (Metal)	One Box Only Needed to Store Components.						

TOOL BOARDS

There is diversified opinion among many Dealers and Service Managers concerning the most efficient location for maintaining shop service tool equipment.

Many Dealerships keep Service Tools in the Parts Department and have tools issued upon demand to the men in the shop. Numbered brass tool checks are assigned to each of the men and are hung on the tool board as tools are issued. This provides accountability of the tools at all times, particularly when the parts man checks the board each night prior to closing up shop and makes sure that tools have been returned.

Other Dealerships maintain Service Tooling on a departmentalized basis by having Engine Tools in one section of the shop and Rear Axle Tools in another, etc.

Naturally many factors should be considered such as size and layout of operation and availability of tools from a time saving viewpoint. In some areas, theft of tools is considered an important consideration. Regardless of where the tools are kept, whether in the Tool Room or in the Shop, they should be prominently displayed and visible to Service Customers wherever conveniently possible. A neat attractive display of service tooling is a "SILENT SERVICE SALESMAN," telling your customer that along with "KNOW HOW," you have specialized tooling and equipment specifically to service his particular car, something your competitor around the corner doesn't have that makes the difference between a satisfactory repair job or a make-shift attempt at one.

There have been a number of requests for Tool Boards to fit varying dealership locations, either in the Parts Department or in the Shop. In cooperation with the Detroit Tool and Equipment Section of the Ford Motor Company, the following Tool Boards were developed and are now available. Boards are constructed of a formed tubular frame with heavy gauge expanded steel mesh securely fastened to the framework. Mesh is treated to assure corrosion resistance and a minimum of upkeep. There is no paint to adhere to tools and be transferred to interior of engine or transmission. Sign and individual tool number plates are also available.

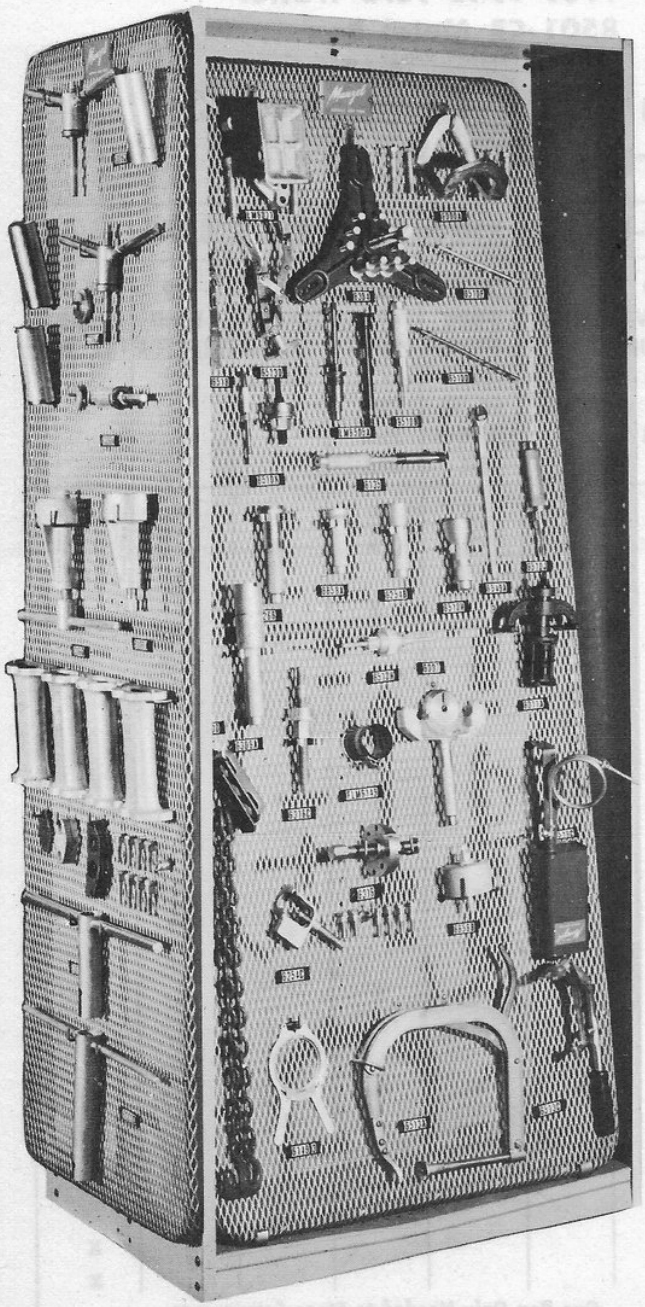
The Boards can be used as follows: —

1. Housed in Standard Parts Bins or mounted on the side or front as shown on left. (M-368-C Board fits the side of two bins.)

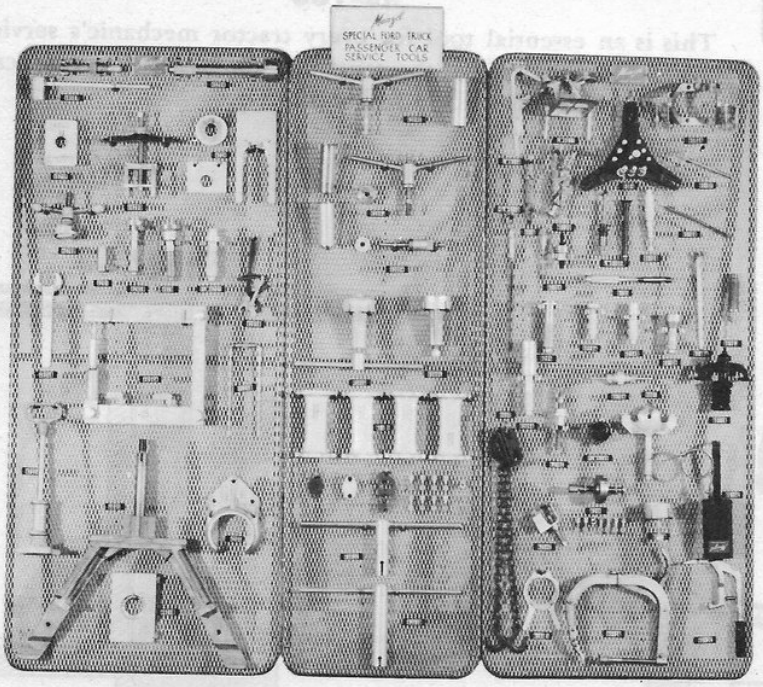
2. Boards can be bolted together to provide any required area and may be used in Vertical or Horizontal set-ups. (See Photo on next page.)

3. Two M-368-A Boards can be mounted on a special caster wheeled dolly in pyramid fashion and moved whenever necessary throughout the Service Area. (This provides maximum efficiency by making tools available in the immediate vicinity of the work regardless of car location.)

1 M-368-A and 1 M-368-C



2 M-368-A and 1 M-368-C



TOOL BOARDS

M-368-A

Size 3' Wide x 6'8" High. Complete with assorted set of 20 Tool Clamps and Hooks

(FRT. PPD. TO DESTINATION)

M-368-C

Size 2' Wide x 6'8" High. Complete with assorted set of 20 Tool Clamps and Hooks

(FRT. PPD. TO DESTINATION)

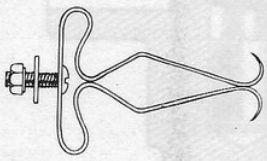
M-368-D — DOLLY

(Used with 2 M-368-A Boards) Size 36" x 36" Approx. Heavy Angle Framework with Dipsy-Doodle Casters.

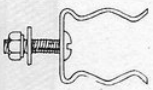
(FRT. PPD. TO DESTINATION)

THE FOLLOWING ADDITIONAL ACCESSORIES ARE AVAILABLE

(THESE ITEMS ARE PRICED F. O. B. BUFFALO, UNLESS ORDERED WITH TOOL BOARDS)

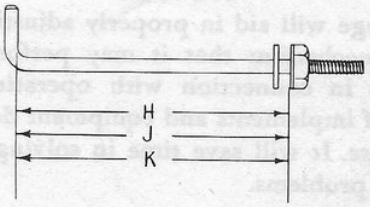


M-368-E



M-368-F

M-368-G



M-368-H • Size 1 ½"

M-368-J • Size 3"

M-368-K • Size 6"

TOOL NUMBER PLATE
M-368-L

Furnished with mounting fasteners: (Give listing of tool Nos. desired or if you prefer we will check your past orders and furnish a complete list of Number Plates.)

TOOL CHECK SET
M-368-CC

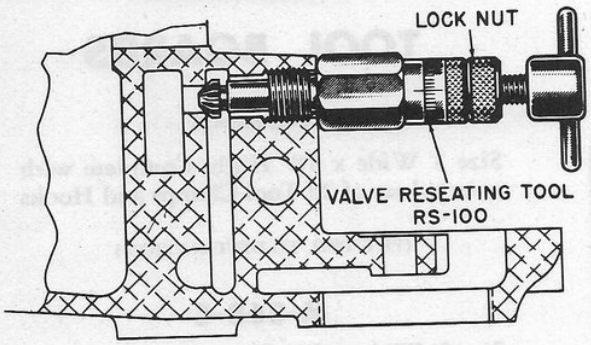
Checks are make of heavy Brass. (Set includes 6 ea. of Nos. 1 thru 10.) Nos. 11 and up are available at 75c per set of 6 checks.

TOOL SIGN — FORD
M-368-BB

Approximately 12" High—24" Long Heavy Gauge Aluminum Alloy. Gold letters on Blue Background.

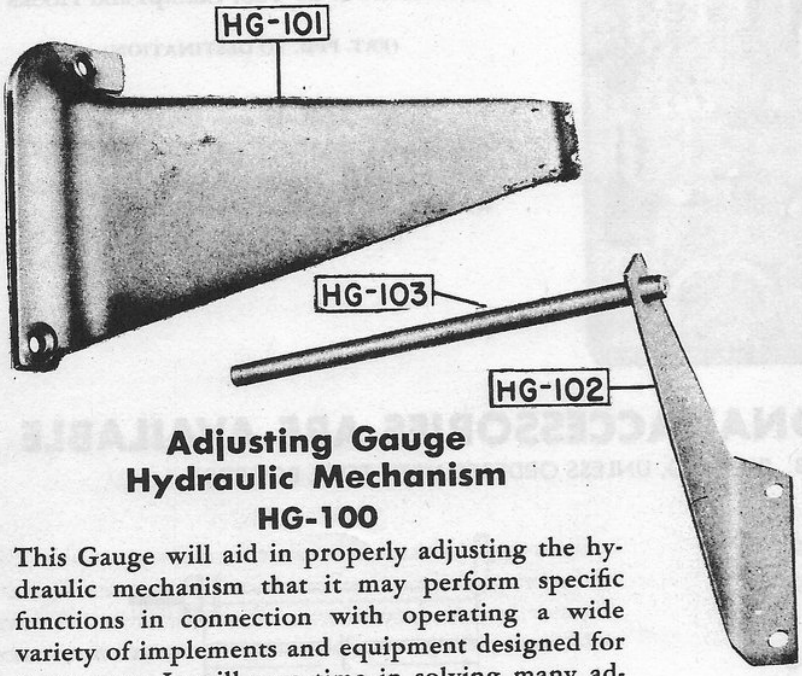
TOOL SIGN — LINCOLN-MERCURY
M-368-AA

Approximately 12" High—24" Long Heavy Gauge Aluminum Alloy. Gold letters on Blue Background.



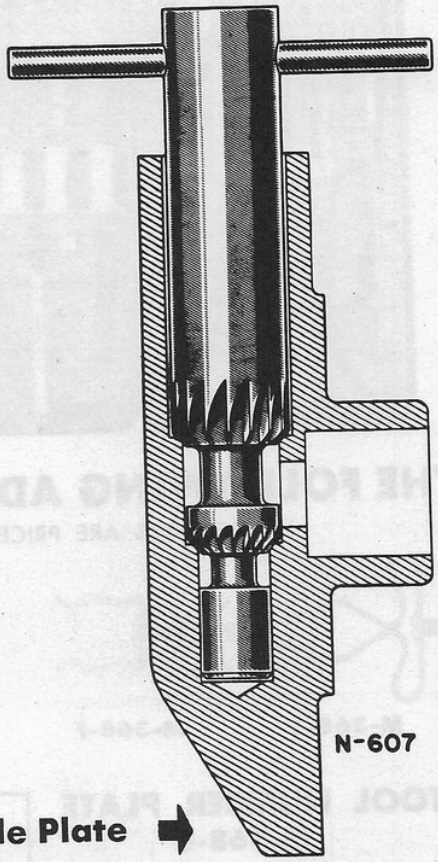
Reseating Tool • Relief Valve
RS-100

This is an essential tool for every tractor mechanic's service kit. With it the seat of the relief valve in hydraulic pump can be reconditioned quickly and accurately.



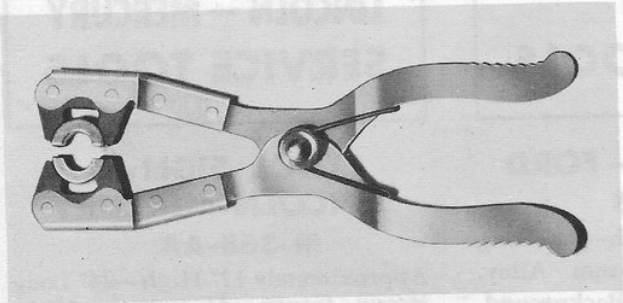
Adjusting Gauge Hydraulic Mechanism
HG-100

This Gauge will aid in properly adjusting the hydraulic mechanism that it may perform specific functions in connection with operating a wide variety of implements and equipment designed for tractor use. It will save time in solving many adjustment problems.



Reseating Tool — Hydraulic Pump Side Plate
N-607

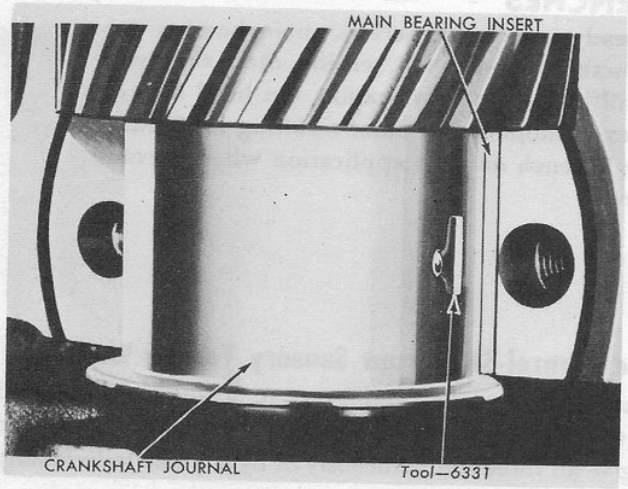
This is a precision tool that should be a welcomed addition to every tractor service mechanic's tool kit. Without it, the operation of reseating the hydraulic poppet valve seats cannot be correctly performed. Care should be exercised in using it to avoid removing more metal than necessary to clean up both seats.



Replacer • Valve Spring Keepers
(FREE STEM VALVES)
6518-AA

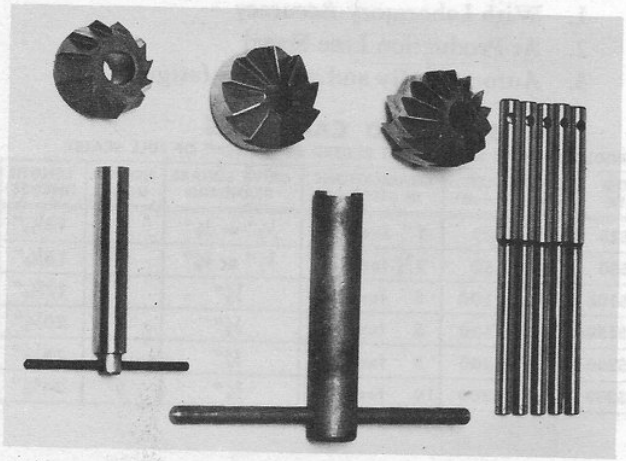
This new tool is a new approach to the elimination of pinched fingers and harsh (?) language.

Free Stem Rotator Valves now in use on exhaust valves, require a special type Keeper Replacer. The Valve Spring Cap on the top and Rotator Cap on the bottom necessitate holding the narrow split Keepers on the outside edges only. Two high strength magnets on the tool securely hold Keepers for ease of insertion.



Remover and Replacer • Upper Main Bearing Insert No. 6331

This tool simplifies removing and replacing of upper insert without possibility of damaging ground crankshaft journal. To remove, the tool is inserted into the oil hole of crankshaft. By revolving the crankshaft, the insert is pressed out. Installation of the new bearing half is made in a similar fashion. Head of tool is swiveled to accommodate varying angles on oil seal holes, making it adaptable to all crankshaft bearing applications.



Valve Seat Cutter Set No. 6505-AA

A special valve seat cutter for use on parts not equipped with hardened inserts.

Set consists of:
- 1 - 2" x 45° Angle Cutter
- 1 - 2" x 15° Angle Cutter
- 1 - 1-7/8" x 70° Angle Cutter
- 1 - Standard Cutter Driver and Handle
- 1 - 7/16" Cutter Adapter Sleeve
- 1 - set of Arbors

A real time-saver for narrowing valve seats of 8 EQ Truck engines before finish grinding. See Ford Service Letter E5, Dec. 29, 1948.

Note: Select arbor to fit guide snugly so roughing cut will be concentric.

AXLE HOUSING RETHREADING DIES

Here is a real time-saving tool for fleet owners and garages servicing trucks and buses. The time saved on one job will pay for the tool. When removing the wheels from trucks, damage to the housing threads is often unavoidable. By rechasing the threads with this handy tool, the assembly operation can be completed easily and quickly

Furnished in the following sizes

NUMBER	SIZE	
M255-U-130	5/8" to 1-1/4"	All Axle and Propeller Shafts
M255-C-434	1-13/16" - 16	Ford, International, Dodge 3/4 Ton.
M255-C-435	2-1/8" - 16	Chevrolet 1-1/2 Ton, GMC 1-1/2 Ton.
M255-C-436	2-1/8" - 12	General Motors 1-1/2 Ton.
M255-C-437	2-1/4" - 16	Ford
M255-C-438	2-1/4" - 12	International, GMC, Diamond T, Federal.
M255-C-439	2-1/2" - 12	International, GMC, Diamond T, Federal.
M255-C-440	2-5/8" - 12	General Motors.
M255-C-441	3" - 12	International, GMC.
M255-C-445	Set of four dies (C-435, C-436, C-437, C-438) w/1 Set of Handles.	

TORQUE WRENCHES

Torque is extremely important on such items as head nuts or cap screws, main bearing cap screws, companion flange nuts and ring gear cap screws. Too much tension can excessively stretch and deform a cap screw—too little and it will loosen under vibration. On head nuts or cap screws, improper torque will give uneven heat expansion—many times resulting in sticking valves or even cracked block or head. Use a Torque Wrench on each application where recommended limits are established by the car manufacturer.

The Manzel-Sturtevant Sensory Torque Wrench

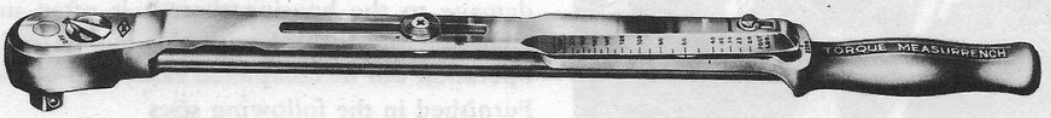
Enables any operator to tighten nuts, screws, and threaded parts to any predetermined torque by sight, sound and feeling — all three simultaneously or by any one individually . . . to control torque

1. With Laboratory Accuracy
2. At Production Line Speed
3. Automatically and with less fatigue

STANDARD CAPACITIES

(PRODUCTION USE SHOULD NOT EXCEED 80 PER CENT OF FULL SCALE)

CATALOG NUMBER	CAPACITY (Foot Pounds)	GRADUATIONS IN STEPS OF	DRIVE SQUARE STANDARD	NO. OF DIALS	LENGTH (INCHES)
M-105-S25	0 to 25	1 foot lbs.	½" or ⅜"	2	16 1/16"
M-105-S50	0 to 50	2½ foot lbs.	½" or ⅜"	2	16 1/16"
M-105-S100	0 to 100	5 foot lbs.	½"	2	17 9/16"
M-105-S150	0 to 150	5 foot lbs.	½"	2	20½"
M-105-S200	0 to 200	5 foot lbs.	¾"	2	28½"
M-105-S300	0 to 300	10 foot lbs.	¾"	2	34¾"



Williams Torque "Measurrench"

Reversible Ratchet With R. H. Torque Indicating Signal • Standard Pattern — 1/2" Square Drive • Patented

No. M-300-S-57

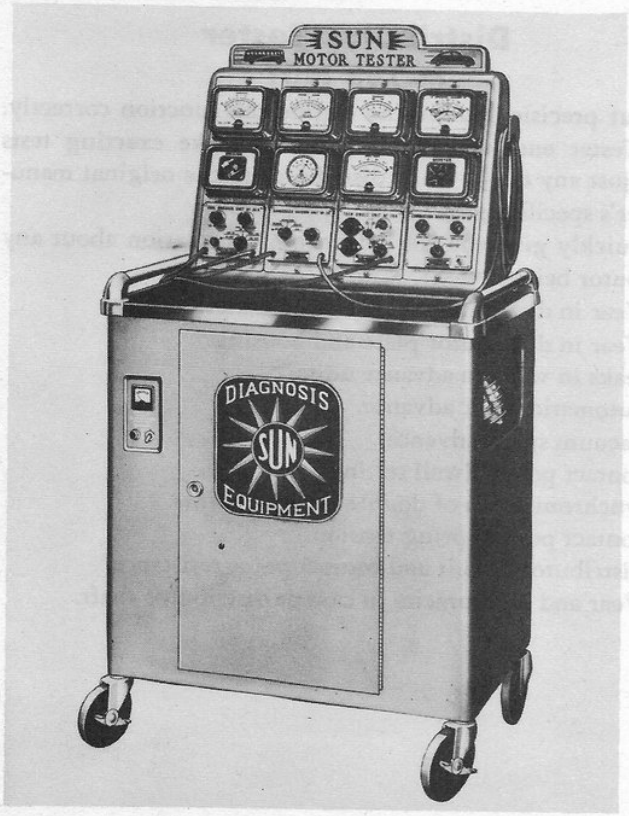
WILLIAMS' RATCHET TORQUE "MEASURRENCH" solves the problem wherever limited and equal tension is required on nuts, bolts, studs, etc. Wrench may be used in two ways, as follows:

By Sight Reading — An easily read scale on the handle indicates applied tightening pressures from 20 to 200 foot-pounds.

By Sound Reading — A sharp sound signal is given for any desired torque from 35 to 200 foot-pounds, by setting the simple sound device.

Simple in design and sturdy in construction, the reversible ratchet mechanism is a highly desirable feature. The well balanced drop-forged handle, with specially designed grip, is 19½" long for ample leverage; the head is compact and free from protrusions, for easy use in close places.

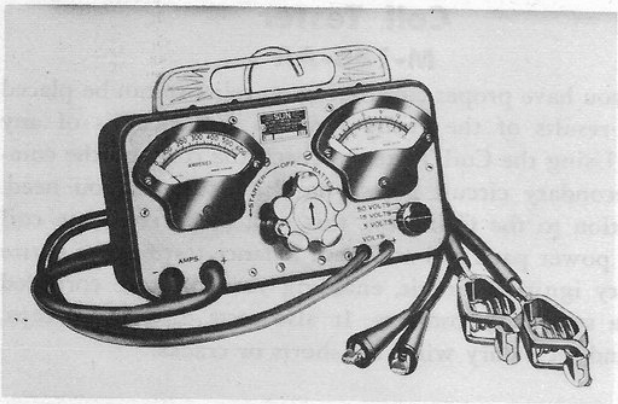
Every part is made of selected alloy and high tensile steel, accurately machined and heat treated. Chrome-plated, with entire top and sides of head and calibrated bar buffed; handle, "satin" chrome.



Master Motor Tester
M-183-MMT

Complete and thorough tests of the three major divisions of automotive engines—ignition, compression and carburetion are scientifically and precisely made with this tester. Causes of engine failure or poor performance are quickly determined so that the exact repair operations may be effected without lost time or guess work. Re-testing, after repairing, assures maximum performance and efficiency.

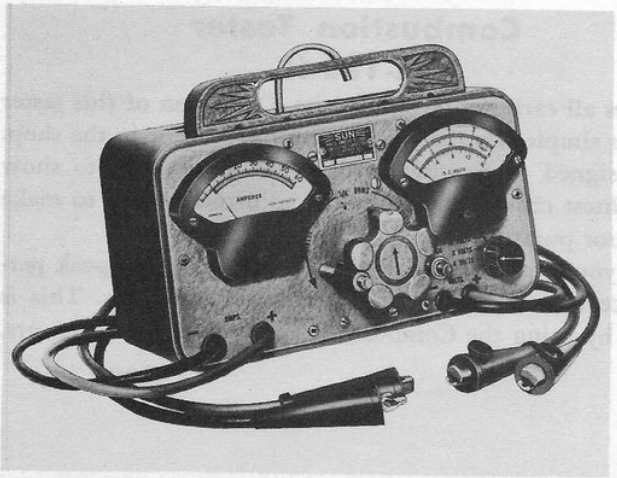
Included with every tester is an accessory group consisting of: Volt Ampere Tester, Battery Starter Tester, Power Timing Light, Oil Pressure Tester, Cylinder Balance Tester, Spring Tension Tester, Solenoid Starter Control Switch, Compression Tester, and Battery Charger.



Battery Starter Tester
M-183-Y

This Tester quickly shows whether the starting motor circuit is functioning properly to assure quick, easy starting. Helps you sell new batteries, starter overhauls, ground cables, starter cables, and starter switches.

For satisfactory engine performance the starting motor circuit must not only crank the engine for easy starting, but must also deliver the proper amount of current for the primary and secondary circuit. These tests are complete and authentic when performed with this Battery Starter Tester.



Volts Ampere Tester
M-183-CB

New Universal Volts Ampere Tester has laboratory accuracy. Bulls-Eye calibration gives accuracy to 4/100 of a volt. Built-in calibration device provides volt-meter check before, during and after testing merely by pressing a button. No more questioning of meter accuracy. Has both fixed and variable resistances for testing all kinds of generators and regulators. Greatest advancement of the Century – Don't take a chance on losing valuable business. Equip your shop today with this new type Volts Ampere Tester.

Distributor Tester
M-183-MDT

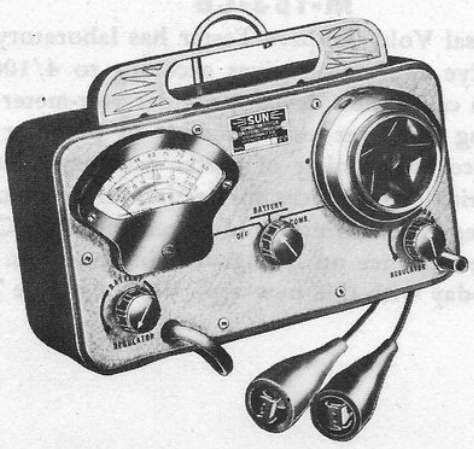
Without precision timing no engine can function correctly. This Tester enables any mechanic to make exacting tests and adjust any car or truck distributor to the original manufacturer's specifications.

Will quickly give you the following information about any distributor being tested:

1. Wear in distributor shaft and bushing.
2. Wear in distributor plate and housing.
3. Leaks in vacuum advance units.
4. Automatic spark advance.
5. Vacuum spark advance.
6. Contact points dwell setting.
7. Synchronization of double breaker points.
8. Contact points spring tension.
9. Distributor circuit and contact point resistance.
10. Wear and inaccuracies in cam or distributor shaft.

Coil Tester
M-183-AA

Unless you have proper coil testing no reliance can be placed on test results of the entire ignition coil circuits of any engine. Using the Coil Tester to check the coil and the complete secondary circuit gives you the assurance you need. In addition to the Coil Test, this unit has a complete coil heating power pack and a current balance test for the entire secondary ignition circuit, enabling you to locate corroded or loose secondary contacts. It also tests distributor caps, rotars and secondary wires for shorts or cracks.



Combustion Tester
M-183-H

Indicates all carburetion difficulties. Operation of this tester is just as simple whether you are on the road or in the shop. It is designed to be quick-acting and serviceable, to show the slightest change in carburetor adjustments and to make accelerator pump test.

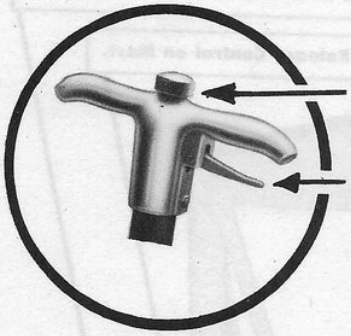
Giving your customers maximum gas mileage and peak performance makes them happy, profitable customers. This is assured by using the Combustion Tester to check their cars.

Manzel

Manzel HYDRAULIC FLOOR JACK

Essential for servicing post war cars and the best Jack for servicing any automobile.

No. M-500 • Steel Wheels **No. M-500-R • Rubber Wheels**



KNOB-TYPE VALVE ADJUSTMENT offers protection against accidental lowering.

FINGER TIP LEVER quickly locks handle in 3 convenient positions.

LONG, STURDY HANDLE has 90° action for high speed lifting.

DUAL HYDRAULIC PUMP quickly raises saddle under load.

FOOL-PROOF RELEASE VALVE assures pressure seal at all times. Oil flushes the seat each time the jack is lowered, insuring a permanently clean seat and tight valve.

SAFE OVERLOAD VALVE is completely tamperproof.

PERFECTLY BALANCED DESIGN, for the smoothest, easiest movement of load you ever experienced.

BALL BEARING CASTERS swivel easily under full load. Grease fittings for gun lubrication. Guard plate prevents hooking obstructions.

ROLLER BEARING FRONT WHEELS are large and sturdy for easy load moving. Equipped with grease fittings.

LARGE SADDLE is dished and ribbed to prevent load slippage.
Lowers to 4″ from ground.
Raises to 24″.

FRAME has maximum height of 6″ and its length of 53″ reaches from axle to bumper.

Manzel

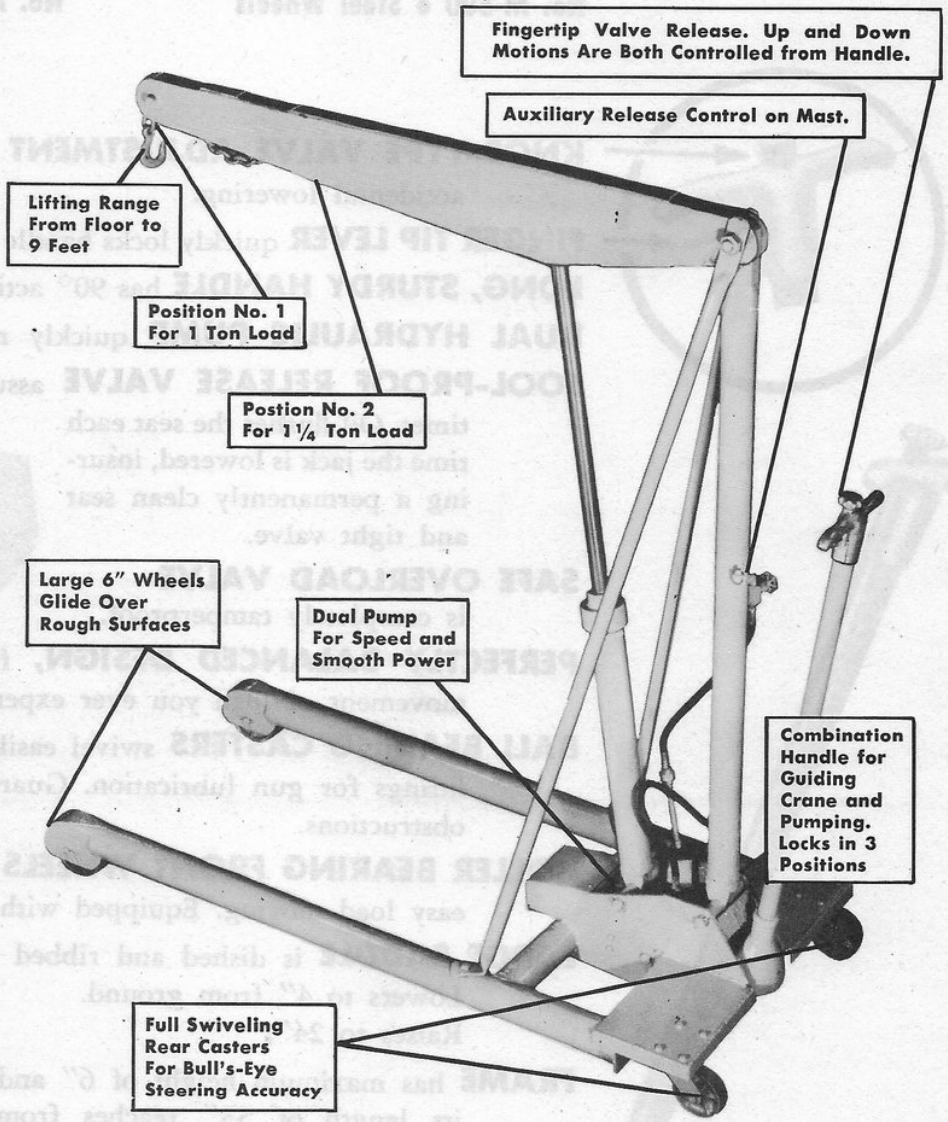
The Manzel FLOOR CRANE
For Safe, Fast Lifting

1 and 2 Ton Capacities

Every hour saved, every ounce of energy conserved, every injury avoided, every foot of floor space put to work means money in the bank for you. The Manzel Floor Crane combines hydraulic lift and cantilever boom to make light, safe, fast work of removing and replacing engines, loading and unloading trucks, raising automobiles, and many other heavy lifting jobs. A few easy strokes of the pumping handle lifts a load of any weight up to the rated capacity.

The Manzel Floor Crane introduces these basic improvements: 1. Four point suspension to prevent tipping. 2. Rigidly attached, massive handle for surer moving. 3. Pump lever combined with handle for greater speed and leverage. 4. Twin cylinders for fast, smooth, positive lifting.

Faster, easier to operate, more versatile, and less costly than overhead hoists and other heavy lifting equipment, the Manzel Floor Crane is one of the best investments a service station can make.


Fingertip Valve Release. Up and Down Motions Are Both Controlled from Handle.
Auxiliary Release Control on Mast.
Lifting Range From Floor to 9 Feet
Position No. 1 For 1 Ton Load
Postion No. 2 For 1¼ Ton Load
Large 6" Wheels Glide Over Rough Surfaces
Dual Pump For Speed and Smooth Power
Combination Handle for Guiding Crane and Pumping. Locks in 3 Positions
Full Swiveling Rear Casters For Bull's-Eye Steering Accuracy

SPECIFICATIONS — Each model has a 6¼" maximum base height and is constructed of 4" outside diameter heavy-walled tubing. The same pumping and guide handle (52" long) is used with all models, and an accessory remote-extension handle is available.

The 2-Ton Boom incorporates an extendible inner boom, adjustable as to length and angle.

The 1-Ton Boom (65" overall length) and the 2-Ton Boom (65" to 105" overall length) are interchangeable.

CAPACITY-TONS / HEIGHT-INCHES / BASE WIDTH-(STANDARD OR WIDE)	BASE WIDTH OUTSIDE	BASE WIDTH INSIDE	BASE LENGTH OVERALL	BASE LENGTH INSIDE	BASE AREA SQ. FT.	BOOM HEIGHT RAISED	BOOM HEIGHT LOWERED	BOOM TRAVEL
1-72-S	32"	24"	82½"	57½"	14.9	9' 6"	3' 2"	6' 4"
2-72-S	32"	24"	82½"	57½"	14.9	11' 4"	3' 2"	7' 10"
1-96-S	32"	24"	82½"	57½"	14.9	11' 6"	5' 2"	6' 4"
2-96-S	32"	24"	82½"	57½"	14.9	13' 0"	4' 7"	7' 10"
1-72-W	46"	38"	82½"	57½"	22.4	9' 6"	3' 2"	6' 4"
2-72-W	46"	38"	82½"	57½"	22.4	11' 4"	3' 2"	7' 10"
1-96-W	46"	38"	82½"	57½"	22.4	11' 6"	5' 2"	6' 4"
2-96-W	46"	38"	82½"	57½"	22.4	13' 0"	4' 7"	7' 10"

Manzel

Presenting MICRO-POISE

A MID-CENTURY MILESTONE IN WHEEL ALIGNMENT TESTING EQUIPMENT

No. M-404-N-201

The new Micro-Poise Bubble Gauge represents the ultimate in accuracy and simplicity of operation for checking front wheel alignment. Its revolutionary design embodies many desirable features which decidedly place it foremost among equipment of this type.

The Micro-Poise Gauge is a self contained portable unit which abuts and is secured to the outer face of the front wheel bearing cone. It translates the position of the spindle into direct readings of caster, camber, and king pin inclination with a degree of accuracy uninfluenced by irregularities of tire or wheel mounting. A level floor plus portable turntables and Toe-In-Gauge are the only requirements, and contrasted with the pit or ramp type installation, represent the maximum in economy. It also permits portability should occasion make it necessary to relocate alignment operations within the shop.

The Micro-Poise Gauge will check both passenger cars and trucks with the utmost ease and minimum of time. Alignment readings are obtained by merely noting the position of a bubble under a circular etched glass face. Camber angle is indicated by the position of the bubble with relation to a fixed center line on the glass.

By repositioning the gauge with a knurled thumb screw and turning the wheel being checked 20° inward, both caster and king pin angle can be read simultaneously.

No complex adjustments or regulations, no calculations are involved — Micro-Poise immediately gives the correct reading to fractions of a degree on its large, easily read scale.

Weighing only five pounds, the self contained Micro-Poise Gauge presents the most accurate, compact, convenient and versatile wheel alignment device available. *Full instructions accompany each gauge.*

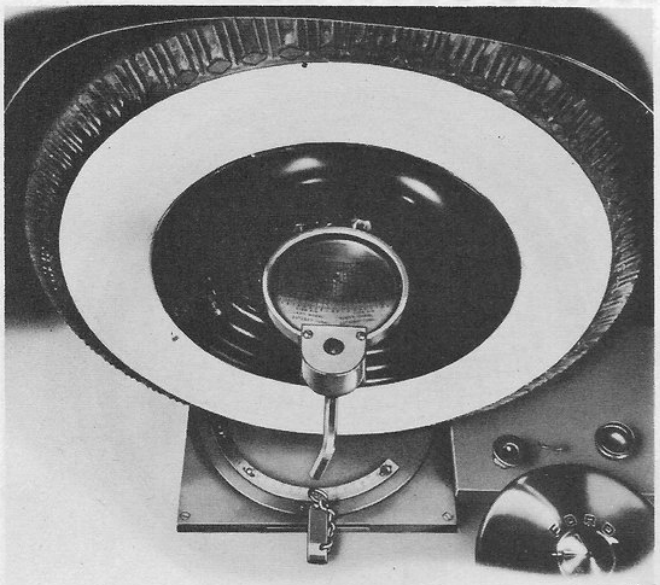
FACTORY DESIGNED, TESTED and APPROVED

For Dealerships having Twin Post Lift Installations, a portable Alignment Table used in conjunction with Radius Plates, Toe-in Gauge and "Micro-Poise" Gauge, affords waist level operation. This facilitates the making of required adjustments while still providing thru its portability, maximum available floor space for other service work.

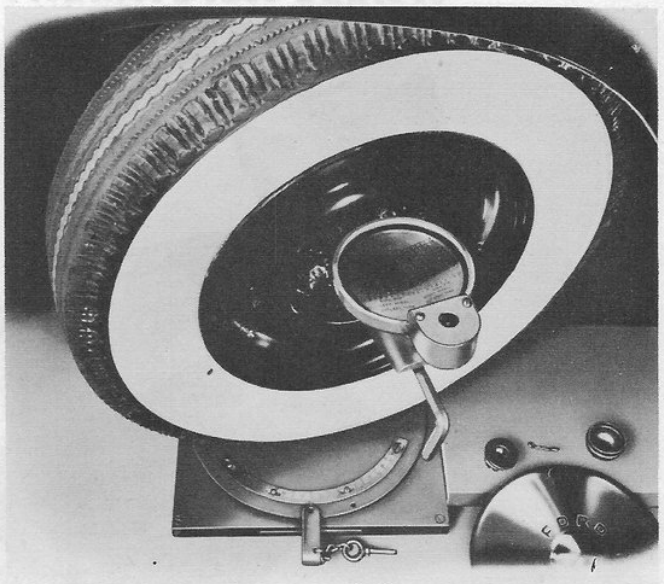
Recommended by Ford Motor Company and is in use in each Ford Assembly Plant.

See Recently Issued Ford Service Letter.

EASY TO READ

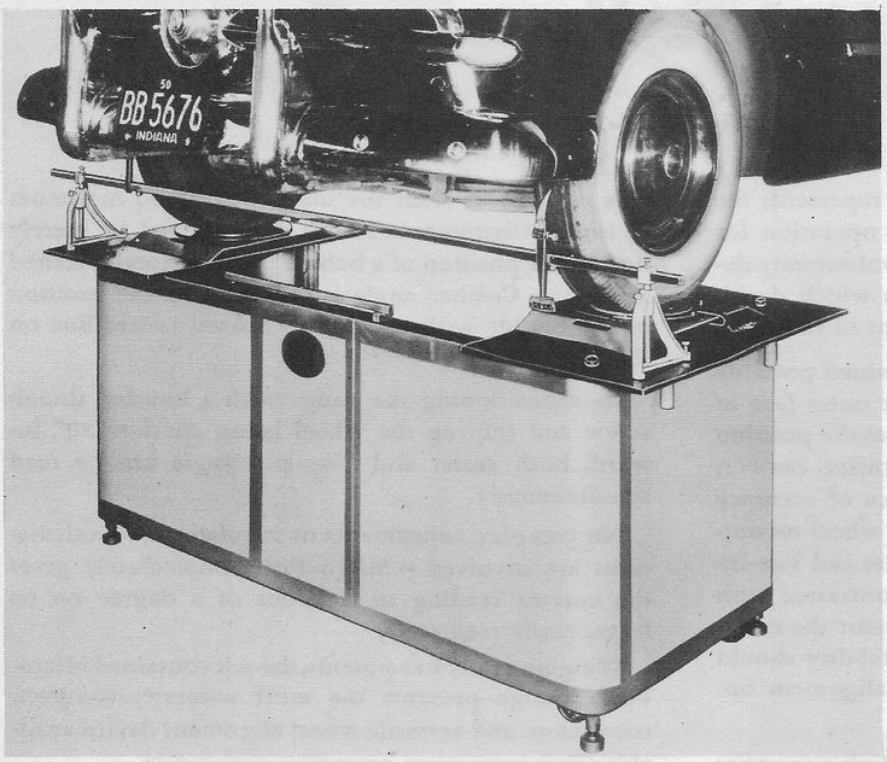


Reading CAMBER Directly with Wheels in Straight Position



Reading CASTER & KING PIN INCLINATION with Wheels Turned 20 Degrees

M-279-AT-38 • Alignment Table



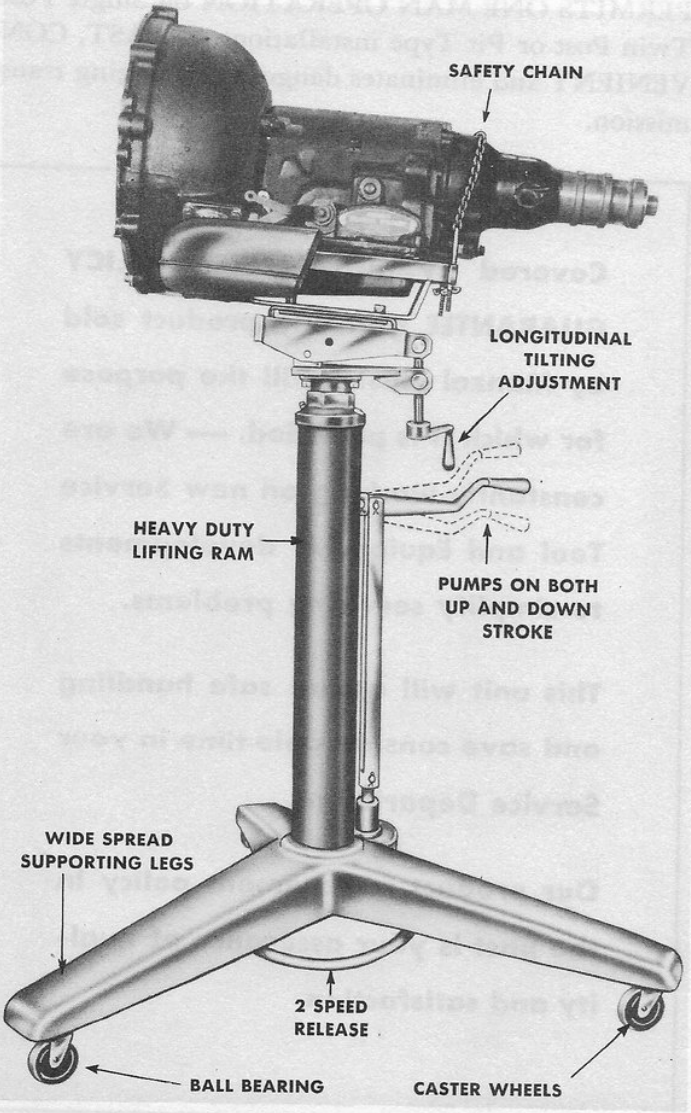
For use on Twin Post Installations, this compact, portable Alignment Table is recommended. The Floating Turn-Tables, Toe-In Gauge and Micro-Poise Caster-Camber Gauge are readily useable at waist level. Many mechanics prefer to make adjustments at this level. (Photograph shows Alignment Table in use with Floating Turn-Table and Toe-In Gauge).

Manzel

Manzel TRANS-LIFT

FOR AUTOMATIC TRANSMISSIONS

SEE THESE NEW MANZEL FEATURES WHICH MAKE TRANSMISSION JOBS FASTER, EASIER, MORE PROFITABLE



No. 7000-E

FAST — DOUBLE ACTING PUMP lifts load on both up and down stroke with conveniently located pumping lever.

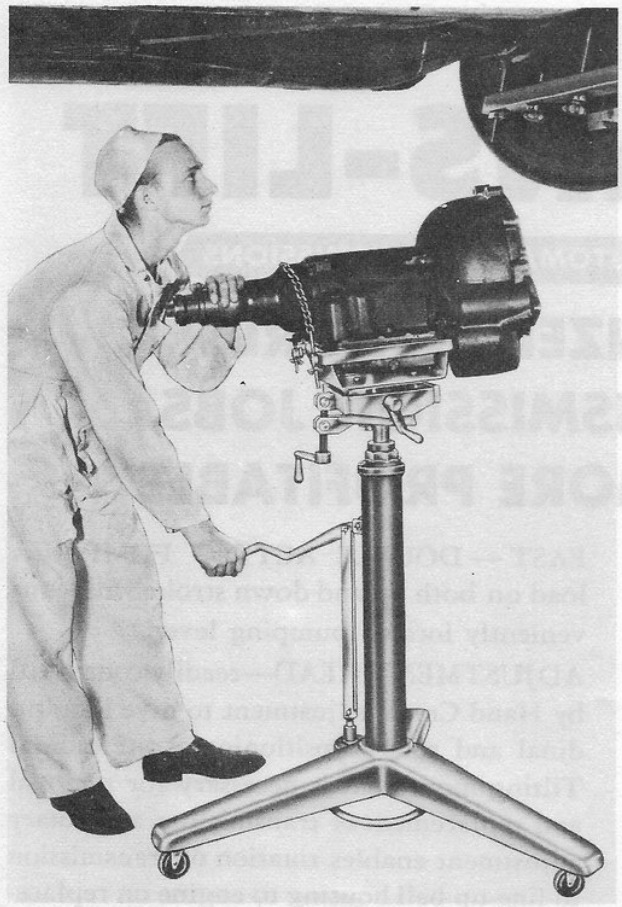
ADJUSTMENT HEAD—readily controlled by Hand Crank adjustment to give longitudinal and rotary positioning. Longitudinal Tilting movement is necessary for removal and replacement of transmission and rotary adjustment enables rotation of transmission to line-up bell housing to engine on replacement.

ROTARY ADJUSTMENT

Transmission pivots — not below as on other units — but *around* the axis or bolt circle. This eliminates making further vertical and lateral adjustments — simplifies aligning bolts, dowels, splines and drive shafts — compensates for variance in spring suspension, unequal floor conditions or hoist.

TRANSMISSION ADAPTER for FORD-MERCURY AUTOMATIC TRANSMISSION is furnished with the TRANS-LIFT and is included in the selling price of the unit. Adapters are available for all other types of Automatic Transmissions including Hydra-matic, and are readily attached to the Adjustment Head.

TWO SPEED RELEASE — enables lowering the adjustment head fast after completion of the job or slow for spotting or lining up attachment bolts, splines or turbine



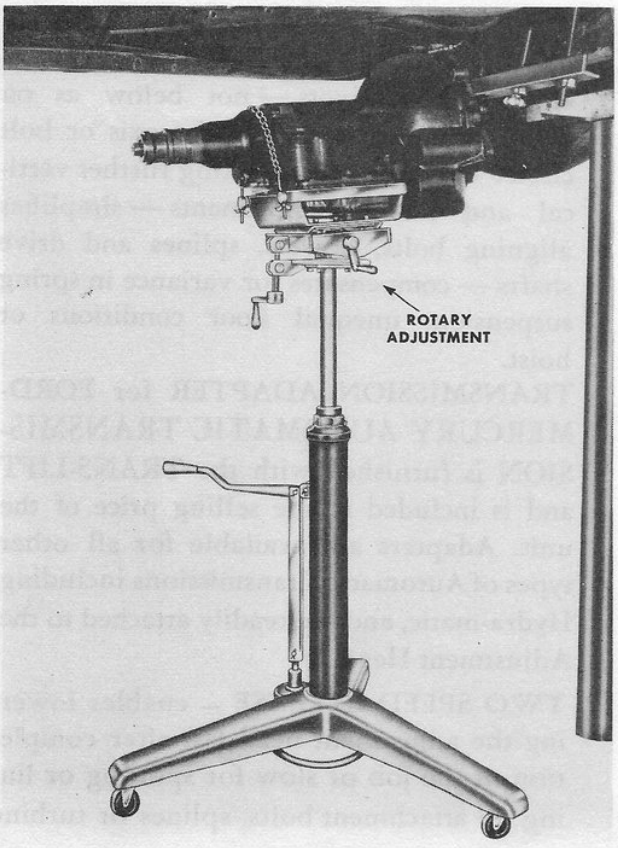
drive shaft. Conveniently located between each of the legs, this foot operated control gives positive and sensitive regulation of lowering.

LIFTING RAM – sturdily supported will lift the heaviest transmission to a maximum height of over 6 ft. Mounted on three wide-spread caster legs, **with special non-tipping feature,** stability under all lifting or moving conditions is assured.

HEAVY DUTY CASTER WHEELS — ball bearing mounted, gives freedom of movement over all types of floors.

ADAPTERS are equipped with safety chain and tension screw adjustment to securely hold transmission to adapter during removal or replacement.

PERMITS ONE MAN OPERATION on Single Post, Twin Post or Pit Type installations. — FAST, CONVENIENT and eliminates danger of damaging transmission.



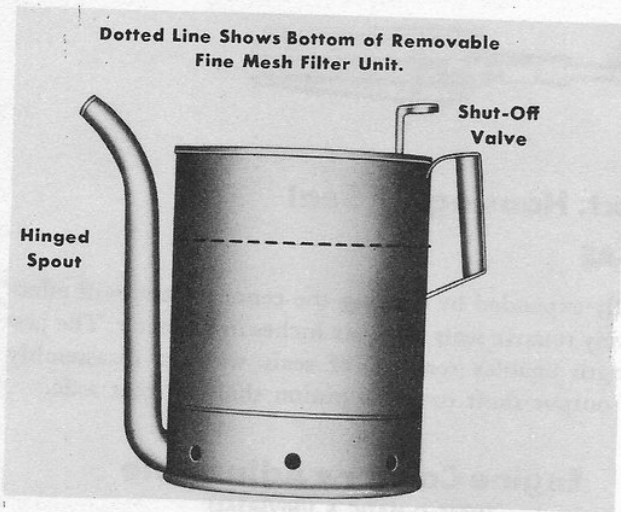
Covered by the MANZEL POLICY GUARANTEE that any product sold by Manzel must fulfill the purpose for which it is provided. — We are constantly working on new Service Tool and Equipment developments to simplify servicing problems.

This unit will assure safe handling and save considerable time in your Service Department.

Our product replacement policy in the past is your assurance of quality and satisfaction.

Manzel

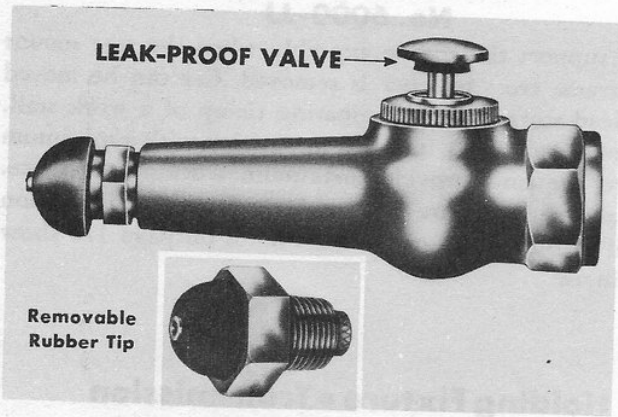
Desirable Tools for AUTOMATIC TRANSMISSION



Oil Drain Can with Removable Filter
No. 7000-C2

A sturdy, heavy gauge, 8 quart capacity oil can with hinged rigid spout and shut off valve. Removable fine mesh filter unit prohibits entry of foreign matter to the transmission oil. Fine mesh filter screen is protected by heavy gauge screening on top and bottom.

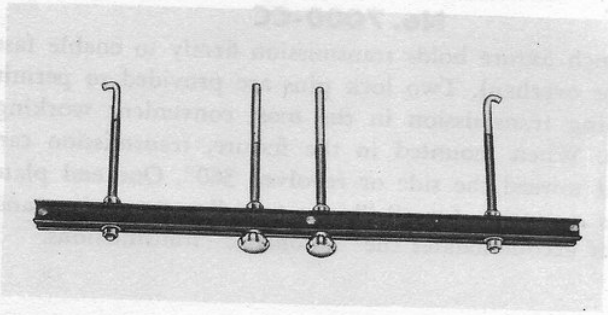
Use this can when draining oil to make internal band adjustments, inspection or repairs. CLEAN AUTOMATIC TRANSMISSION OIL IS IMPORTANT.



Air Nozzle Assembly with Rubber Tip
No. 7000-DE
Extra Rubber Tip
No. 7000-DD

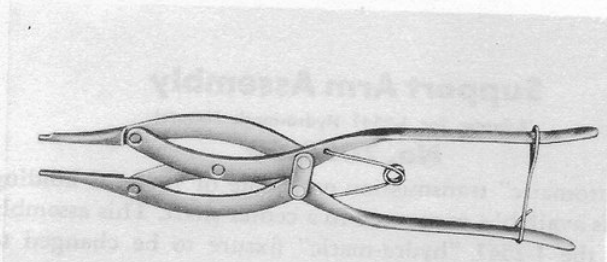
A bronze Air Nozzle with thumb operated, "leak-proof" control valve. Special replaceable rubber tip enables air tight fit on ports.

Used for removing Clutch Pistons or Rear Servo Piston, checking continuity and blowing out passages and porting in Primary Sun Gear Shaft or Transmission Housing.



Engine Carrier • Adjustable
No. 6000-J

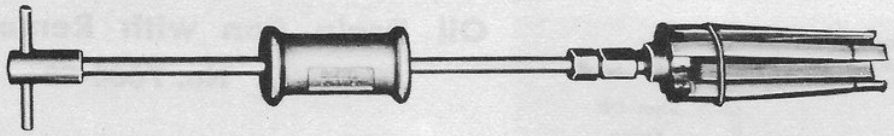
Use to support the engine assembly when the rear mount on the frame cross member is removed. Car can be moved into a dead storage area eliminating tie-up of a work stall. Designed to be rapidly installed in position with a minimum of effort, the unit provides maximum working clearance. Hooks and supports are adjustable in length and position and will accomodate most cars.



Remover • Snap Ring
No. 7064

These pliers are the newest development in this type of tool. Handles are long and furnish plenty of leverage for opening the stiffest snap ring. The tips are ground so that they will get into the deepest groove and are knurled so the ring, even though covered with grease will not slip off. The jaws are "parallel opening" thus assuring the snap ring will not be bent out of shape or the end of the pliers curved. A real "must" and a time saver on any snap ring job.

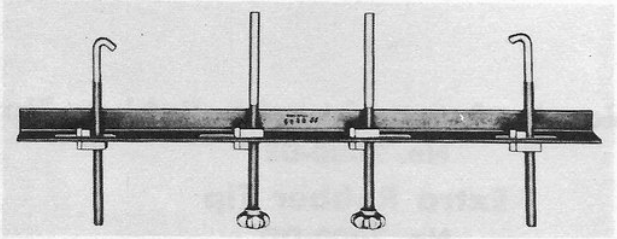
Automatic Transmission Tools



Remover • Front Pump & Ext. Housing Oil Seal

No. 1175-AE

"Universal" — Although designed for two applications on the automatic transmission, both requiring very long jaws, this tool will prove a time saver on many seal removal jobs. The four thin tapered jaws, when fully expanded by turning the center screw, will effectively remove seals up to six inches in diameter. The jaw length enables removal of seals without disassembly of output shaft or drive pinion shaft on rear axle.

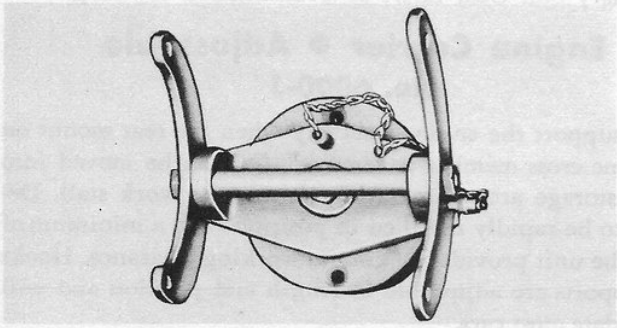


Engine Carrier • Adjustable

(MERC-O-MATIC & UNIVERSAL)

No. 6000-JJ

Used to support the engine assembly when the rear mount on the frame cross member is removed. Car can be moved into a dead storage area eliminating tie-up of a work stall. Designed to be rapidly installed in position with a minimum of effort, the unit provides maximum working clearance. Hooks and supports are adjustable in length and position and will accommodate most cars. Photos on page 116 show carrier in use.

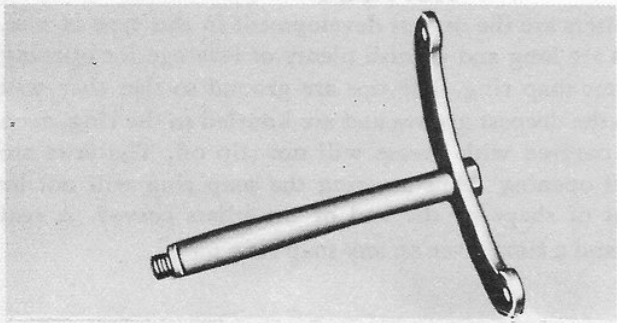


Holding Fixture • Transmission

(Accommodates "Hydra-matic" & "Automatic")

No. 7000-CC

This bench fixture holds transmission firmly to enable fast repair or overhaul. Two lock pins are provided to permit positioning transmission in the most convenient working position. When mounted in the fixture, transmission can be tilted toward the side or revolved 360°. One end plate provides mounting for all "hydra-matic" transmissions and the other accommodates the "automatic" transmissions.

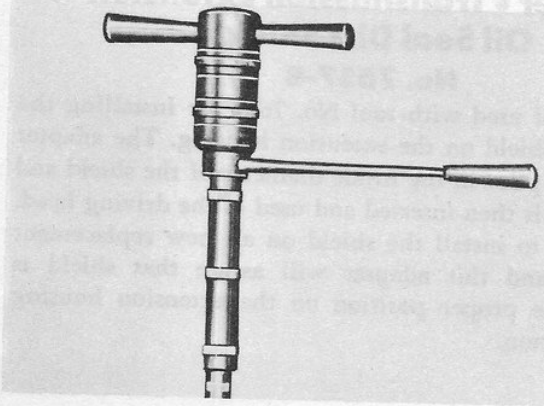


Support Arm Assembly

(Adapter for J-2541 Hydra-matic Fixture)

No. 7000-CD

The "automatic" transmission end plate of 7000-CC holding fixture is available, as secured to a center shaft. This assembly enables the J-2541 "hydra-matic" fixture to be changed to accommodate the "automatic" transmission as well.

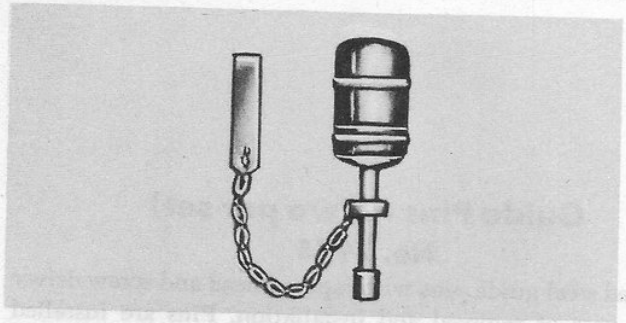


Wrench • Rear Band Adjustment
No. 7195

A new patented feature designed into the head of this wrench assures "on the button" accuracy to band adjustment. This device assures constant accuracy to a degree not possible with standard torque wrenches relying on manual settings or visual interpretation and operating over constantly varying ranges.

In use on the Automatic Transmission, the lower handle is turned counter-clockwise to free the lock nut. The upper handle is turned clockwise turning the band adjustment screw inwardly until proper tension is applied to the band. At this point the mechanism in the head releases, making it impossible to tighten further beyond the established limits and cause damage to transmission parts.

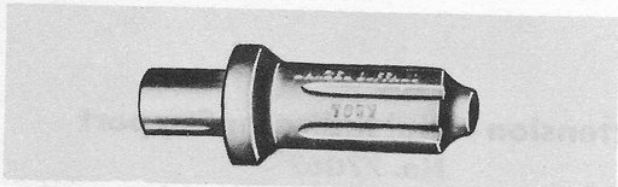
The position of the line on the side of the wrench head is then noted and head turned *1½ turns counter-clockwise* — Locknut is tightened by turning the lower handle and band adjustment is completed.



Wrench • Front Band Adjustment
No. 7225

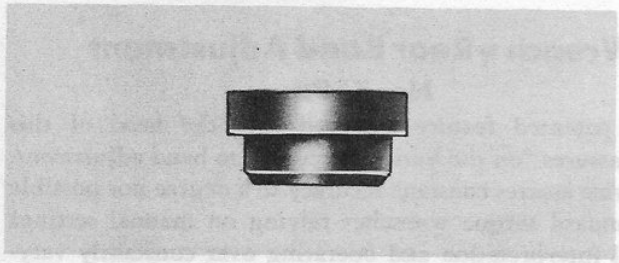
The same new patented feature used in Tool 7195 above. This tool is used to make internal adjustment of front band servo adjustment screw.

In use, the gage bar, attached by chain to the tool, is inserted between protruding head of piston and inward end of adjustment screw. Locknut is backed off with box end wrench. Adjustment Wrench is inserted into slotted head of set screw and turned *clock-wise* until torque mechanism releases permitting head to rotate freely. At this point, position of head is noted, and Wrench is turned *one* complete *turn counter-clockwise.* Holding adjustment screw in position, locknut is securely tightened with box wrench and gage bar and Adjustment Wrench are then removed.



Replacer & Pilot • Ext. Housing Oil Seal
No. 7657

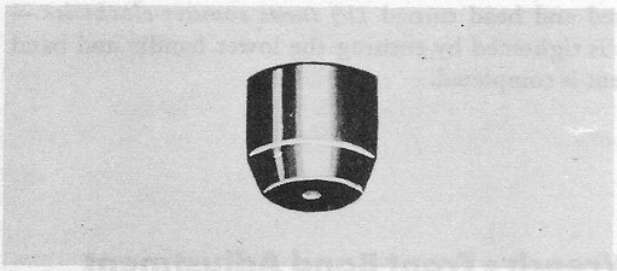
This precision machined tool with long protruding pilot is used for replacement of rear transmission extension oil seal. It is also used as a pilot for centering and positioning the transmission output shaft when checking transmission shaft end play with dial indicator. This tool should be inserted into the extension housing and seal as a pilot and seal protector when installing extension housing over transmission output shaft.



Adapter • Transmission Extension Oil Seal Dirt Shield

No. 7657-B

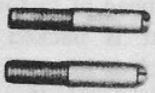
An adapter tool used with tool No. 7657 for installing the Oil Seal Dirt Shield on the extension housing. The adapter is machined to pilot in the inside diameter of the shield and Tool No. 7657 is then inserted and used as the driving head. It is necessary to install the shield on all new replacement transmissions and this adapter will assure that shield is installed to the proper position on the extension housing without distortion.



Replacer • Inner One Way Clutch Race

No. 7946

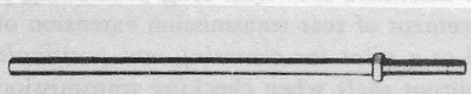
A precision ground tool held to less than .0005 limits acting as a pilot to position sprags properly and lead the inner race for ease of insertion. Direction of rotation is plainly marked on the top of the tool and a momentary check assures that sprag has not inadvertently been installed in reverse direction.



Guide Pins • (Two per set)

No. 7975

Hardened steel guide pins with tapered head and screw driver slot for ease of removal and installation. Pins are installed into the two top "transmission to converter" housing bolt holes. The pins are used to pilot the transmission into place and removed after the two lower attaching bolts are in place. The use of these pins will greatly facilitate and speed up the replacement of a transmission assembly.

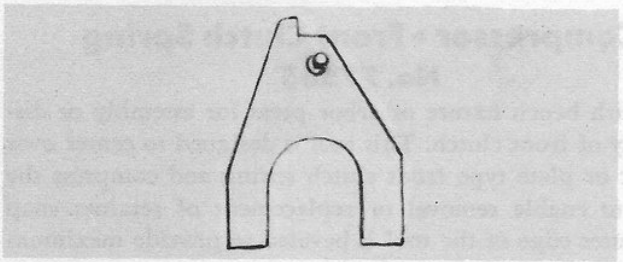


Extension • Dial Indicator Support

No. 77067

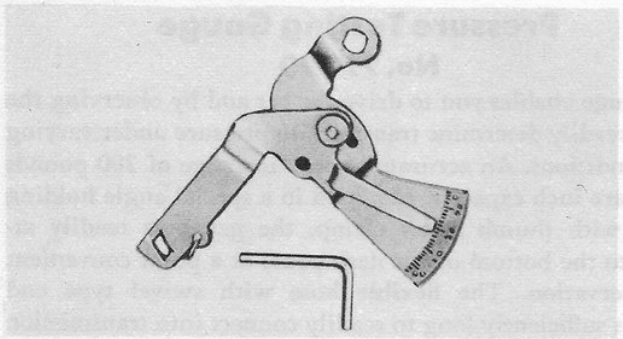
A long support arm with long threaded end for mounting thru front pump housing attachment bolt hole. Used for mounting dial indicator assembly when checking transmission shaft end play prior to disassembly of transmission or after partial reassembly to check corrective measures made.

NOTE: Use Dial Indicator No. 4201-C (page 12) or KMO-30 (page 100) with above support fixture.



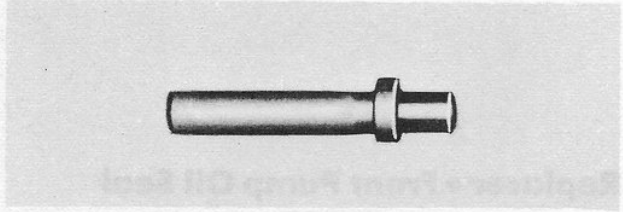
Linkage Adjusting Tool
No. 77230-M (Mercury) No. 77230-F (Ford)
(Not Shown)

The above tools index the "Z" bar in position to enable making necessary "carburetor to Z bar" adjustment. Refer to "factory instructions" covering throttle linkage adjustment.



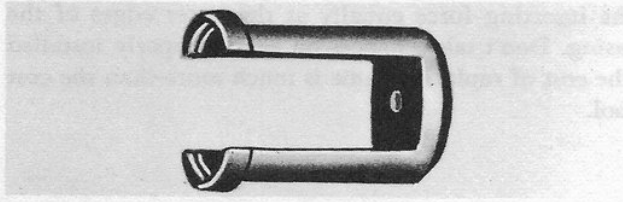
Gage • Throttle Control Lever Movement
No. 77270-A
No. 7000-B1 • Gage Pin
(Used With Above)

The control lever gage, together with the gage pin, is used to check the throttle control lever to assure that it is not bent or distorted. The 77270-A Gage together with 77820 Pressure Testing Gauge is also used to establish pressure rise and range points at varying degree of throttle advance in both "Reverse" and "Drive" positions. Consult "Factory Information" for specific instructions covering use of this important gage.



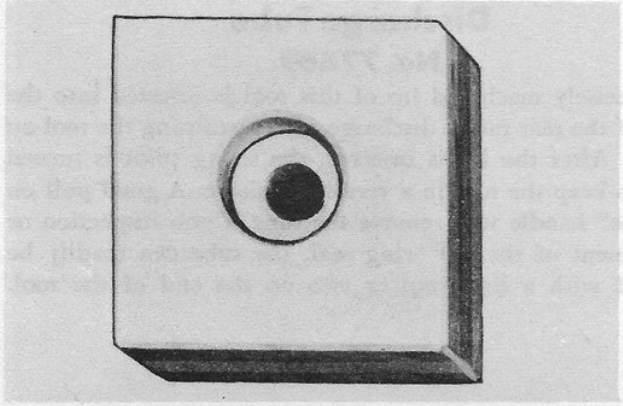
Replacer • Manual Shaft Seal
No. 77288

Precision machined pilot type tool which sizes the sealing lips and applies the inserting force equally on the outer edges of the metal casing. The thin metal casing of a seal is easily deformed thru use of improper or makeshift replacement means. The use of "factory recommended" seal replacers assures a trouble-free installation made with minimum time.



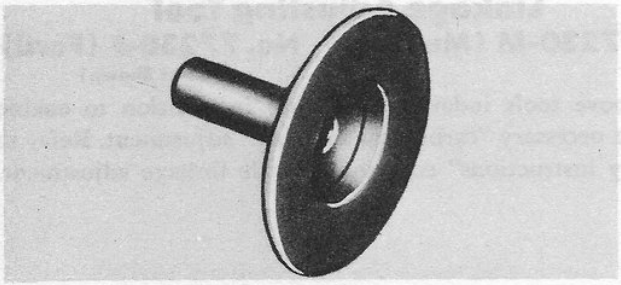
Compressor • Rear Clutch Spring
No. 77515

Used with bench fixture or arbor press for assembly or disassembly of rear clutch. This tool is accurately sized to contain and compress the heavy coil spring without damaging same by deforming.



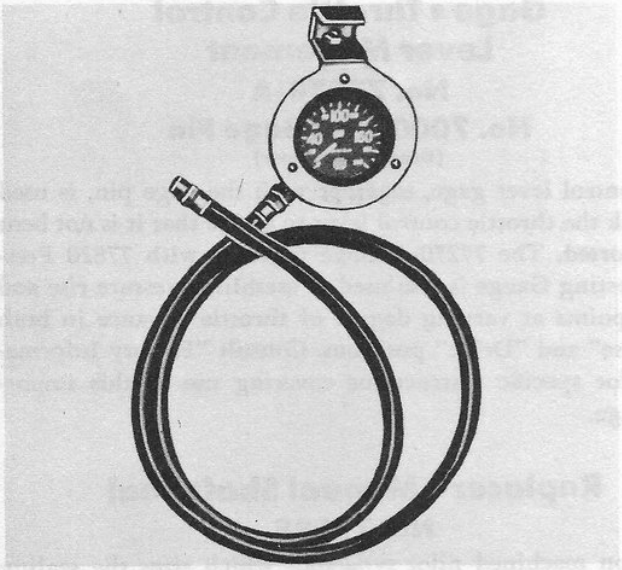
Holder • Primary, Secondary Clutches & Converter Assembly
No. 77530

A hardwood block with bore and counterbore for holding the primary sun gear shaft while assembling or disassembling front and rear Clutch Assemblies. The wood counterbore holds and prevents damage to gear teeth on the primary gear.



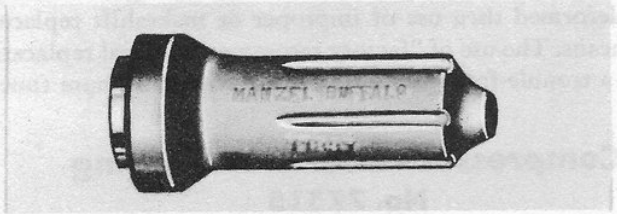
Compressor • Front Clutch Spring
No. 77565

Used with bench fixture or arbor press for assembly or disassembly of front clutch. This tool is designed to center over the disc or plate type front clutch spring and compress the spring to enable removal or replacement of retainer snap ring. Outer edge of the tool is beveled to provide maximum accessibility to snap ring and groove.



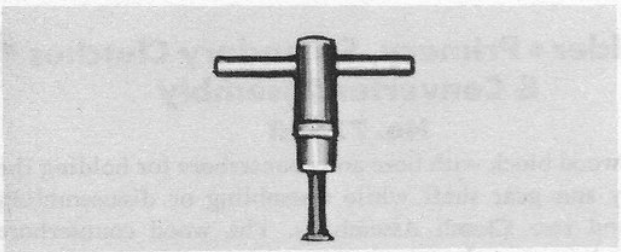
Pressure Testing Gauge
No. 77820

This gauge enables you to drive the car and by observing the gauge, readily determine transmission pressure under varying road conditions. An accurate hydraulic gauge of 200 pounds per square inch capacity. Mounted in a special angle holding fixture with thumb screw clamp, the gauge is readily attached to the bottom of the dash panel at a point convenient for observation. The flexible hose with swivel type end fitting is sufficiently long to readily connect into transmission pressure take-off outlet.



Replacer • Front Pump Oil Seal
No. 77837

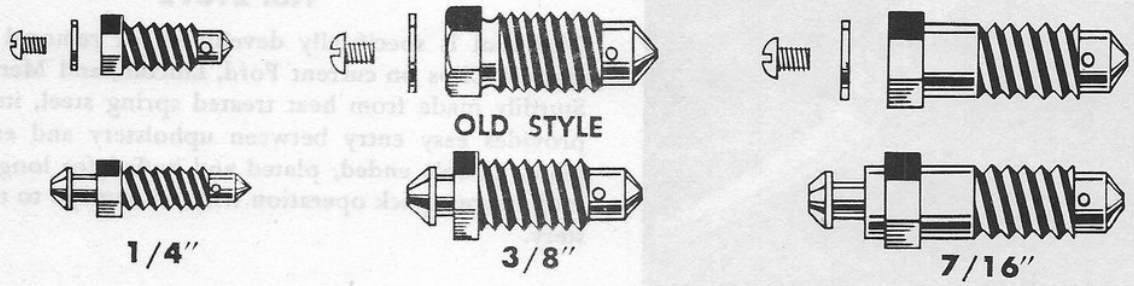
Precision machined to replace front seal with assurance of a trouble-free installation. Tool is designed to pilot seal and apply the inserting force equally at the outer edges of the metal casing. Don't take chances on an improperly installed seal as the cost of replacing same is much more than the cost of the tool.



Remover and Replacer • Rear Pump Discharge Tube
No. 77869

The precisely machined lip of this tool is inserted into the bulge of the rear pump discharge tube by canting the tool on its side. After the lip is inserted, the sizing pilot is turned down to keep the tool in a vertical position. A good pull on the "Tee" handle will remove the tube. Upon inspection or replacement of the "O" ring seal, the tube can readily be replaced with a light tap or two on the end of the tool.

SOMETHING NEW HAS BEEN ADDED IN WHEEL CYLINDER BLEEDER SCREWS

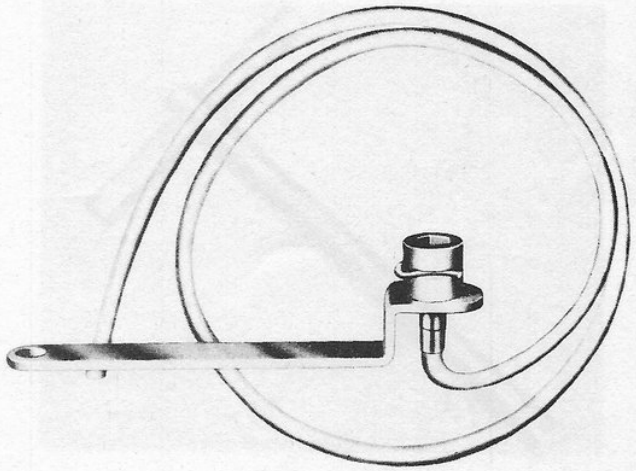


NEW STYLE NOW CURRENTLY IN USE ON ALL CARS

Practically all cars and trucks are now using the new type Bleeder Screw with a "Zerk" type end fitting instead of the removable round head screw and washer. The combined Wrench and Bleeder Tube now available in corresponding sizes greatly speeds up the bleeding operation.

In use, the Wrench snaps over the head of the Bleeder Screw and is held in place by a retaining spring lock. A long-wearing Seal in the Wrench head tightly seals the assembly against leakage. Tube end is inserted into drain can and Bleeder Screw then opened allowing brake fluid to flow freely until clear. Clear plastic tubing permits observation of fluid for air bubbles. When clear, Bleeder Screw can be tightly closed.

The long wrench arm enables the tightest Bleeder Screw to be readily opened and later, firmly closed against leakage.



For SPEED and OIL FREE FLOORS in your Brake Department, try a set of these wrenches.

WRENCH APPLICATION FOR CURRENT CARS & TRUCKS

S-101 Wrench & Tube Assembly — 1/4" Size

KAISER-FRAZER • NASH (4940)
STUDEBAKER PASS. CAR • WILLYS OVERLAND

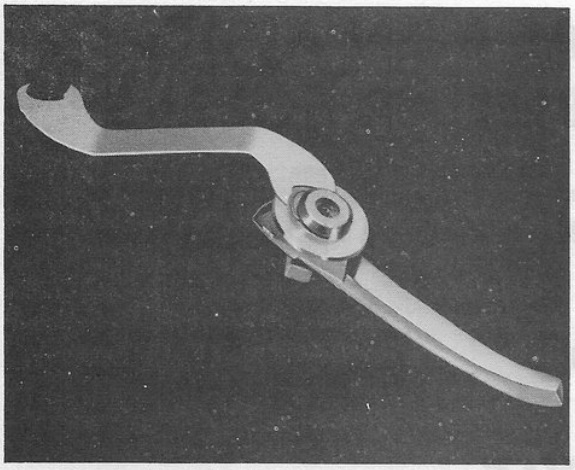
2061-A Wrench & Tube Assembly — 7/16" Size

DODGE TRUCKS
FORD F-7 & F-8
INTERN. HARV. TRUCKS

2061 Wrench & Tube Assembly 3/8" Size

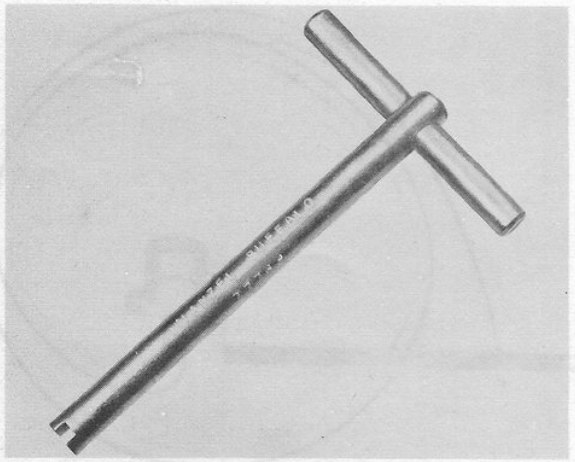
BUICK
CADILLAC
CHEVROLET
(TRUCKS & PASS. CAR)
CHYRSLER
DESOTO
DODGE PASS. CAR
FORD PASS. CAR
FORD F-5 & F-6
HUDSON
INTERN. HARV. TRUCKS
KAISER-FRAZER
NASH (4960)
OLDSMOBILE
PACKARD
PLYMOUTH
PONTIAC
STUDEBAKER "R" SERIES

(NEW TYPE SCREWS ALSO USED ON MANY OF THE LISTED CARS FROM 1939 AND UP — GET A SET OF THE 3 WRENCHES TO COVER ALL CARS)



Remover • Door Handle Escutcheon Clip
No. 21812

This tool is specifically developed for removal of Door Handle Clips on current Ford, Lincoln, and Mercury cars. Sturdily made from heat treated spring steel, its thinness provides easy entry between upholstery and escutcheon plate. Double ended, plated and buffed for long life, this tool assures quick operation with no damage to the upholstery.



Bending Tool • Throttle Valve Stop
No. 77763

A heavy tool to enable bending the Throttle Valve Stop to obtain proper Throttle Lever travel. (see shop manual for Throttle Lever Range) This factory approved tool is used with 77270 or 77270-A Gauge Transmission Throttle Control Lever Movement and Pressure Testing Gauge No. 77820.

Manzel

NOW! Factory Approved

REMOVE AND REPLACE REAR TRANSMISSION BUSHING

(STANDARD OR OVERDRIVE)

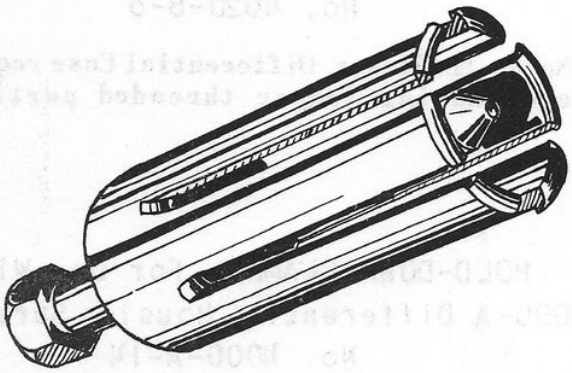
49, 50, 51 Ford or Mercury

WITHOUT DISASSEMBLING OR REMOVING UNIT FROM THE CHASSIS

Saves Time

A 4 Hour Job Complete in 15 Minutes

Time Saved on one job will practically pay for both tools



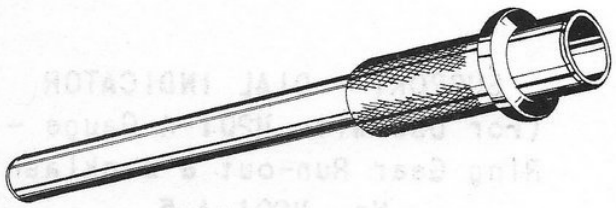
REMOVER - BUSHING & SEAL
No. 7000-G

To Remove Seal & Bushing:-

1. **Remove drive shaft by disconnecting at rear companion flange.**

2. **Insert Remover over transmission output shaft. Split jaws will snap into place behind bushing.**

3. **A speed ratchet wrench (11/16") socket on the jack screw will quickly remove bushing and grease seal simultaneously.**



REPLACER - TRANSMISSION BUSHING
No. 7000-H

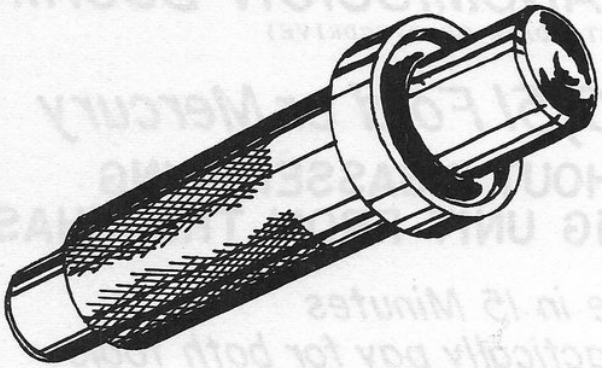
This tool is over 20 inches long to enable clearing the X-frame member when driving the new bushing home. The working head holds and pilots the bushing accurately. The protruding driving face correctly positions bushing by acting as a stop in the grease seal counterbore.

NOTE: Install New Oil Seal. Use Tool #7657-K for Mercury or Tool #7052-A for Ford.

Manzel

REAR AXLE CHANGES IN '51 FORD STATION WAGON '51 FORD F-1 1/2 TON TRUCK LATE '50 & '51 MERCURY

Require the following New Tool and Details of Older Tools

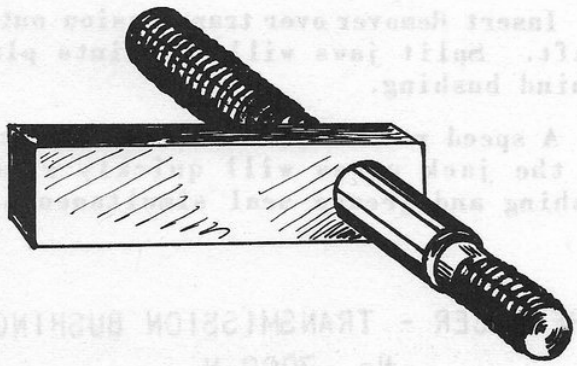


REPLACER - DIFFERENTIAL BEARING CONE
NO. 4222-J

Protruding pilot mating with the inside bore diameter assures bearing cone replacement without danger of cocking. (Bore size changed in Ring Carrier.)

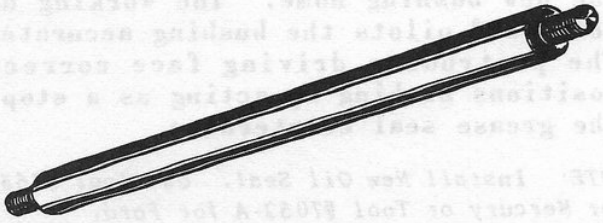
SCREW - For Use With
4020-A or 4020-B Pinion Depth Gauge
No. 4020-B-5

(Note: Shallower Differential Case requires screw having longer threaded portion.)



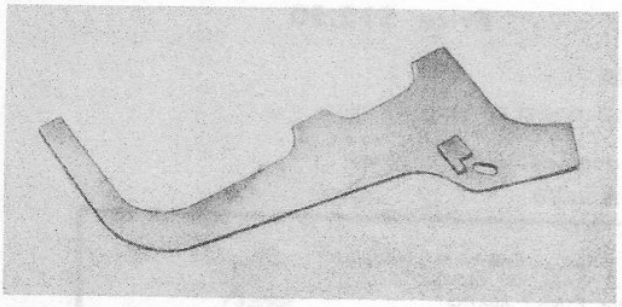
HOLD-DOWN CLAMP - For Use With
4000-A Differential Housing Spreader
No. 4000-A-14
(2 Req'd)

(Note: Thread size on Differential Housing changed from 3/8 - 16 on '49 Mercury to 5/16 - 18 on late '50 & '51. New lugs will fit both rear axles.)



SUPPORT - DIAL INDICATOR
(For Use With 4201-A Gauge -
Ring Gear Run-out & Backlash
No. 4201-A-5

(This support will fit all '49, '50 & '51 rear axles.)



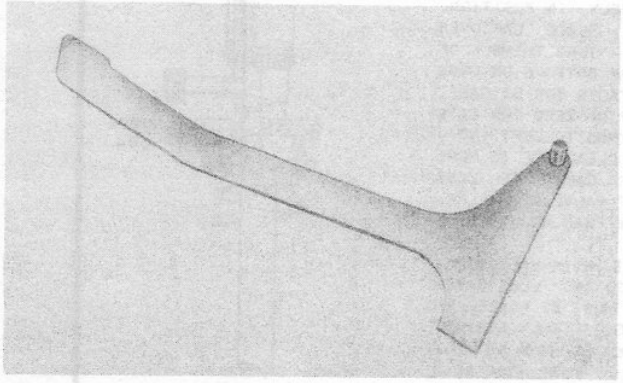
Gage • Throttle Linkage

No. 77230-FA-52 **Price $4.75**

FOR:

1951 & 1952 FORDOMATIC TRANSMISSIONS

A new throttle linkage gage that will accomodate both 1951 and 1952 Ford linkage. This gage incorporates the change as announced by Product Information Letter P-144 dated April 29, 1952.

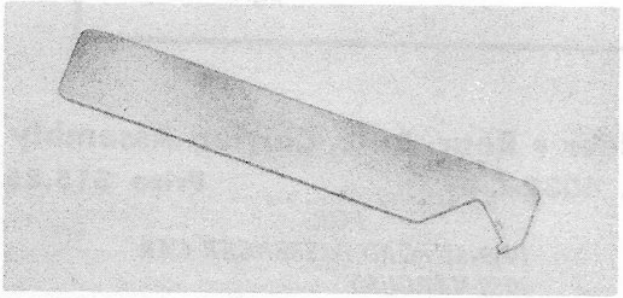


Gage • Throttle Linkage

No. 77230-MAA **Price $3.85**

FOR:

1952 MERC-O-MATIC TRANSMISSION



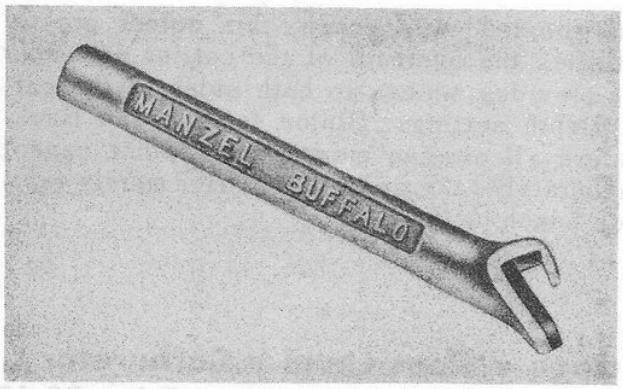
Wrench • Antenna Nut

No. 18918 **Price $1.05**

FOR:

1952 FORD, LINCOLN & MERCURY

An inexpensive hook type wrench that fits crown nut on all 1952 Antennas. - Not Fancy - but it does the job.

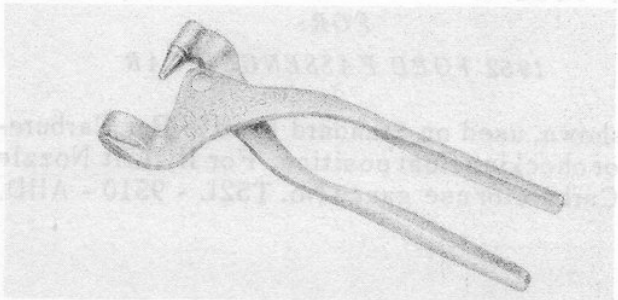


Replacer • Chrome Trim Strip

No. 51700 **Price $2.60**

FOR: 1952 FORD VICTORIA
1952 MERCURY

A handy tool for installing the chrome trim strip that snaps over the drip moulding. A composition rub strip bears against the outer edge of the moulding and keeps the trim from being marred or bent out of shape while being installed.



Tester • Hydraulic Valve Tappet

No. 6500-B **Price $8.25**

FOR: 1952 LINCOLN

For performing "bleed-down" test on hydraulic valve tappet. In use, the lifter is pumped under oil with this special tool and "bleed-down" is timed to establish the rate of "bleed" or leakage under pressure. See Lincoln-Mercury instructions.

Manzel

Micro Gage • Valve Checking

No. 6513-CE-2 **Price $12.50**

FOR:

ALL 11/32" ROTATOR OR FREE STEM VALVES

Used on both standard or overhead valve engines

HOW MICRO-GAGE IS USED

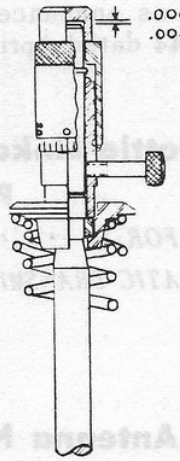


Fig. 1

REMOVE ROCKER ARM ASSEMBLY. REMOVE CAP FROM TIP OF EXHAUST VALVE. INSTALL GAGE ON VALVE TIP IN PLACE OF CAP. PRESS GAGE FIRMLY AGAINST RETAINER KEYS AND GAGE PIN AGAINST END OF VALVE STEM. LOCK GAGE PIN SECURELY IN POSITION. REMOVE GAGE FROM VALVE TIP. PLACE CAP OVER GAGE PIN. HOLD DOWN FIRMLY. TURN THIMBLE OF GAGE TO RIGHT OR LEFT UNTIL CAP BOTTOMS ON GAGE PIN AND RIM OF CAP JUST CONTACTS TOP OF GAGE. READ GAGE. READINGS TO RIGHT OF ZERO INDICATE POSITIVE CLEARANCE AND READINGS TO LEFT INDICATE NEGATIVE CLEARANCE. IF CLEARANCE IS MORE THAN RECOMMENDED GRIND RIM OF CAP. IF LESS THAN RECOMMENDED GRIND END OF VALVE STEM. REPLACE CAP ON VALVE ON WHICH IT WAS ADJUSTED.

ADJUSTMENT OF CAP-CLEARANCE WITH VALVES REMOVED IS EXACTLY AS DESCRIBED AND ILLUSTRATED ABOVE EXCEPT THAT THE KEYS MUST BE PLACED IN SPRING RETAINING WASHER AND HELD FIRMLY AGAINST SHOULDER ON VALVE STEM EITHER BY HAND OR IN A VISE. AFTER ADJUSTMENT BE SURE TO KEEP VALVE, CAP, KEYS AND SPRING RETAINING WASHER IN MATCHED SETS.

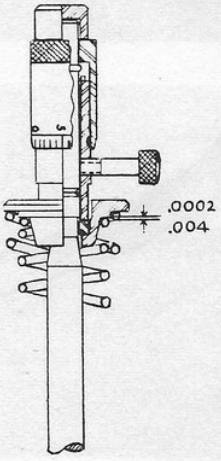
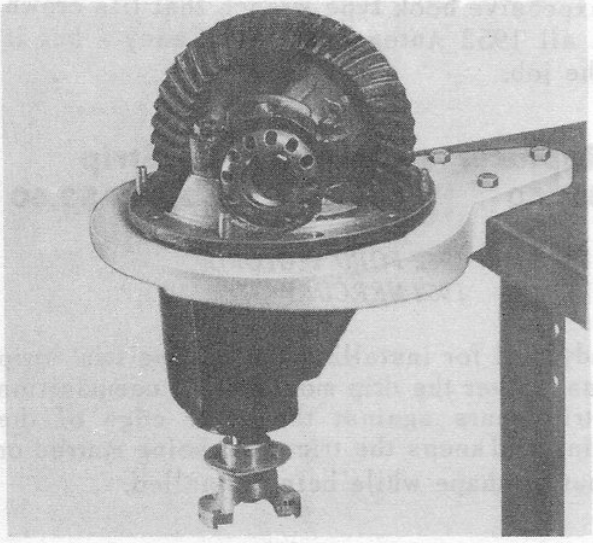


Fig. 2



Holder • Rear Axle Carrier Assembly

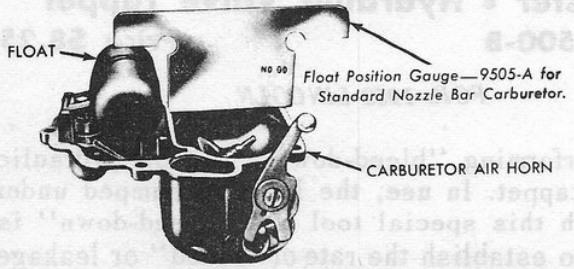
No. 4032-C **Price $15.85**

FOR:

1949-52 FORD PASSENGER CAR

1952 MERCURY

When mounted on a bench, this holder greatly facilitates the overhaul of the carrier assembly as it provides access to both sides of the carrier. Depth settings, Pinion tension and Backlash are all precise measurements that cannot be accurately taken with the carrier merely resting on bench or floor.



Gage • Float Level • Carburetor

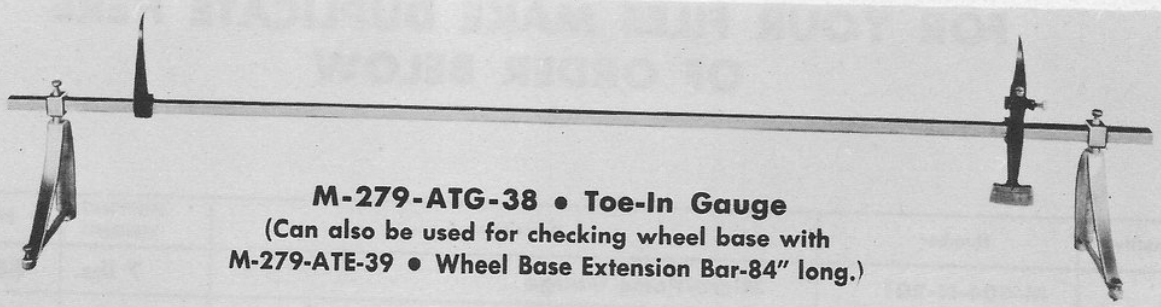
No. 9505-A **Price $2.45**

FOR:

1952 FORD PASSENGER CAR

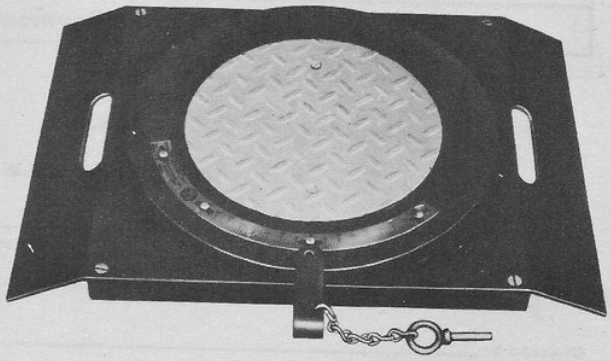
As shown, used on Standard Nozzle Bar Carburetor for checking float position. For Hi-Lift Nozzle Bar Carburetor use gauge No. T52L - 9510 - AHD.

FOR USE ON FORD, LINCOLN AND MERCURY CARS AND FORD TRUCKS



M-279-ATG-38 • Toe-In Gauge
(Can also be used for checking wheel base with
M-279-ATE-39 • Wheel Base Extension Bar-84" long.)

M-404-N-201
Micro-Poise Gauge
Caster-Camber



M-279-TT-35 • Full-Floating Turn Table
(2 per set)

YOUR ALIGNMENT TOOLS

Micro-Poise Gauge is in use in each Ford Assembly Plant. Insure proper checking and setting of Caster and Camber by using factory methods. Accurate direct reading. Compact.

FILL IN HANDY ORDER FORM ON REVERSE SIDE.

Manzel

FOR YOUR FILES MAKE DUPLICATE HERE OF ORDER BELOW

Quantity	Number	Description	SHIPPING WEIGHT	PRICE	TOTAL
	M-404-N-201	Micro-Poise Gauge	7 lbs.	$80.00	
	M-279-TT-35	Full-Floating Turn Tables	86 lbs.	$75.00 per Set	
	M-279-ATG-38	Toe-In Gauge	20 lbs.	$28.50	
	M-279-ATE-39	Wheel Base Extension Bar (used with M-279-ATG-38)	8 lbs.	$5.60	
	M-279-AT-38*	Alignment Table	595 lbs.	$295.00	

* Does not include Check Tools or Turn Tables.

☐ Check Enclosed ☐ C. O. D. ☐ Open Account Terms—Net Cash 30 days, F.O.B. Source

On prepaid or C.O.D. orders you may deduct 2% from total of order

Dealership Name _____ Date _____

Please Print or Type

Address _____ City _____ State _____

Ordered by _____ District _____

PLEASE SHIP AT ONCE

Quantity	Number	Description	SHIPPING WEIGHT	PRICE	TOTAL
	M-404-N-201	Micro-Poise Gauge	7 lbs.	$80.00	
	M-279-TT-35	Full-Floating Turn Tables	86 lbs.	$75.00 per Set	
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* Does not include Check Tools or Turn Tables.

☐ Check Enclosed ☐ C. O. D. ☐ Open Account Terms—Net Cash 30 days, F.O.B. Source

On prepaid or C.O.D. orders you may deduct 2% from total of order

Dealership Name _____ Date _____

Please Print or Type

Address _____ City _____ State _____

Ordered by _____ District _____

SEND ORDER TO Manzel **315 Babcock Street, Buffalo 10, N. Y.**